

SECTION 8
ALTERNATIVE WASTEWATER SYSTEMS

EXHIBITS

Exhibit 8-1 Wastewater Collection System Improvements

Exhibit 8-2 Wastewater Collection System Improvements, NW Quadrant

Exhibit 8-3 Wastewater Collection System Improvements, SW Quadrant

Exhibit 8-4 Wastewater Collection System Improvements, NE Quadrant

Exhibit 8-5 Wastewater Collection System Improvements, SE Quadrant

Exhibit 8-6 Opinion of Probable Project Costs, Oxidation Ditch

Exhibit 8-7 Operation and Maintenance Costs, Oxidation Ditch

Exhibit 8-8 Flow Schematic, Oxidation Ditch

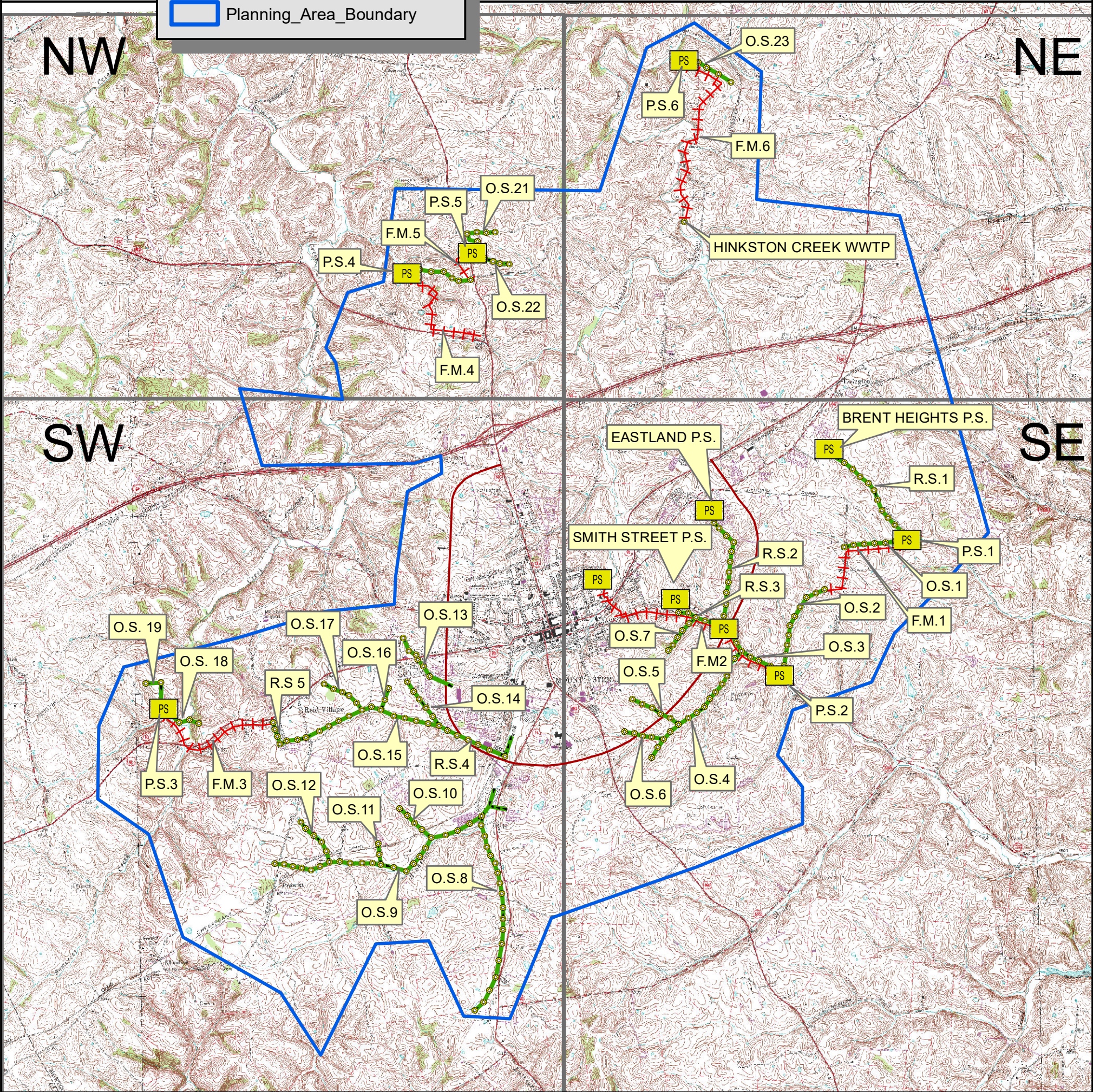
Exhibit 8-9 Opinion of Probable Project Costs, IFAS

Exhibit 8-10 Operation & Maintenance Costs, IFAS

Exhibit 8-11 Flow Schematic, IFAS

Legend

- PS Pump_stations
- Manholes
- Sewer
- Force_main
- Converted_Graphics selection
- Converted_Graphics
- Planning_Area_Boundary



0 1,750 3,500 7,000 10,500 14,000 Feet



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Approved: DFS

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EXHIBIT 8-1
WASTEWATER COLLECTION SYSTEM
IMPROVEMENTS
WASTEWATER FACILITIES PLAN

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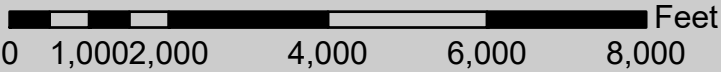
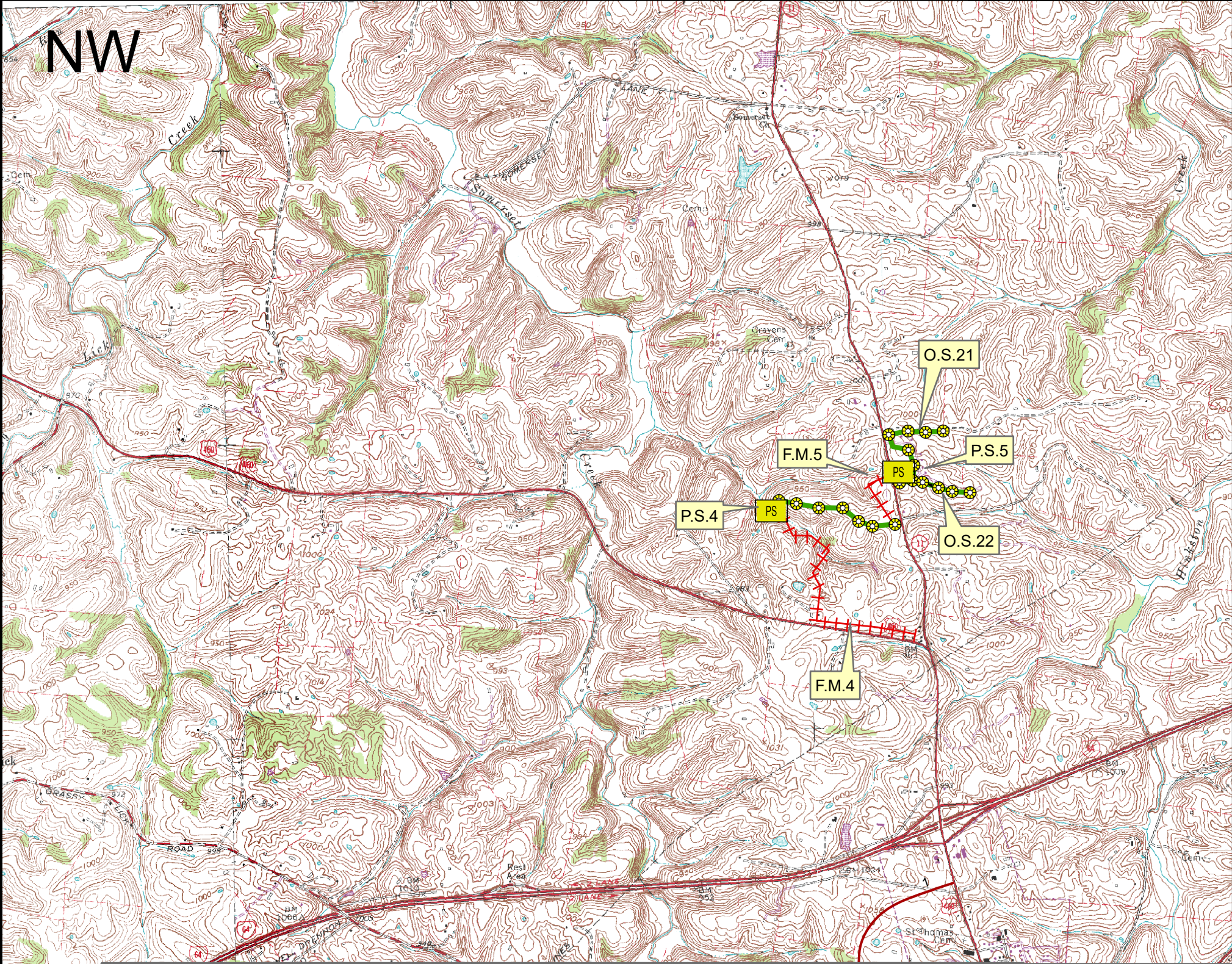
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8-1

Legend

- PS Pump_stations
- Manholes
- Sewer
- Force_main

NW	NE
SW	SE



Date:	1/27/2020
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**EXHIBIT 8-2
WASTEWATER COLLECTION SYSTEM
IMPROVEMENTS
NW QUADRANT
WASTEWATER FACILITIES PLAN**

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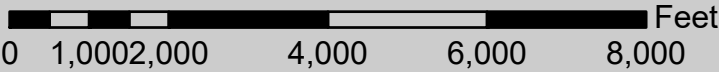
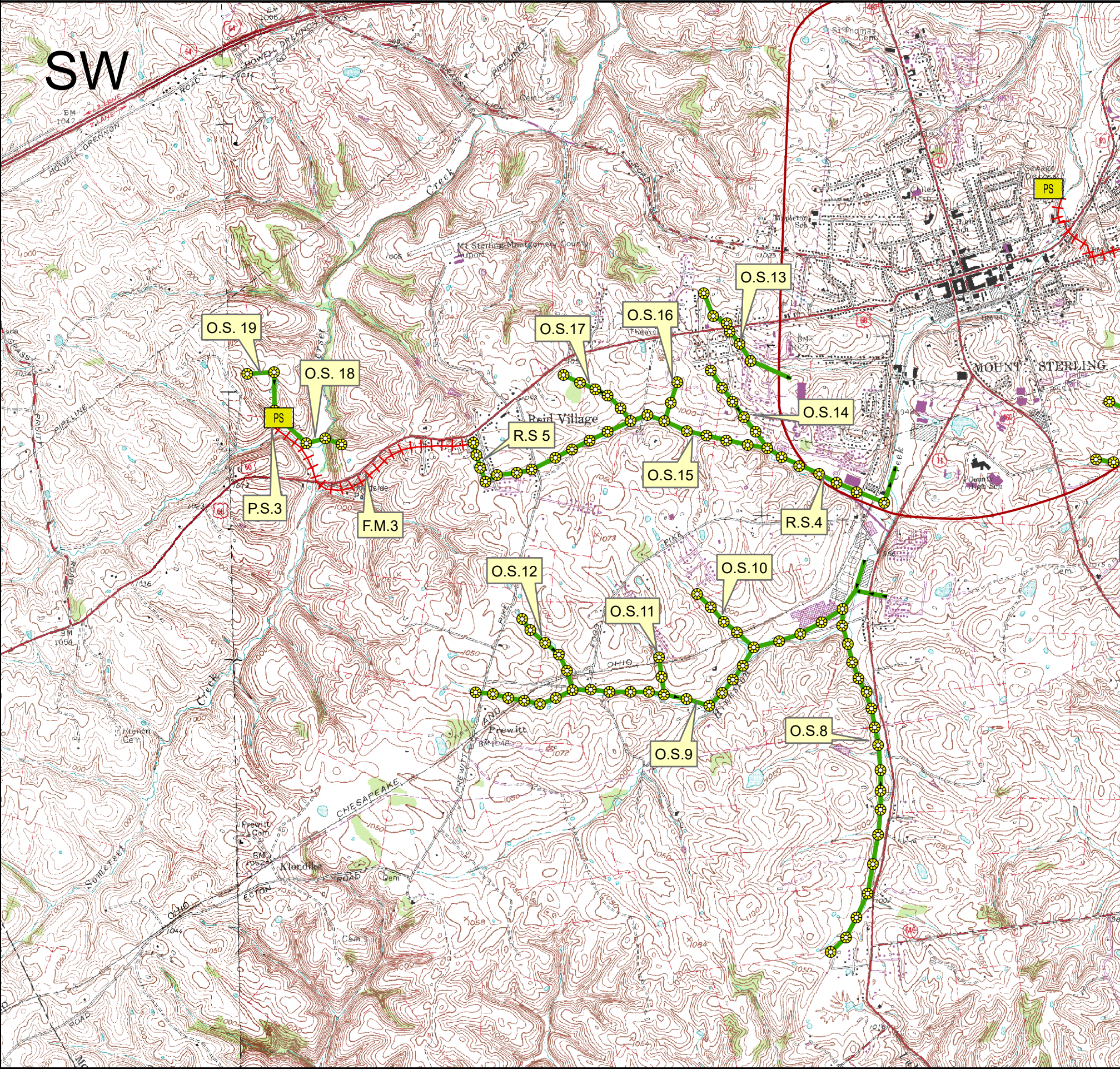
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8-2

Legend

- PS Pump_stations
- Manholes
- Sewer
- Force_main

NW	NE
SW	SE



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EXHIBIT 8-3
WASTEWATER COLLECTION SYSTEM
IMPROVEMENTS
SW QUADRANT
WASTEWATER FACILITIES PLAN

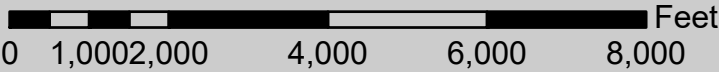
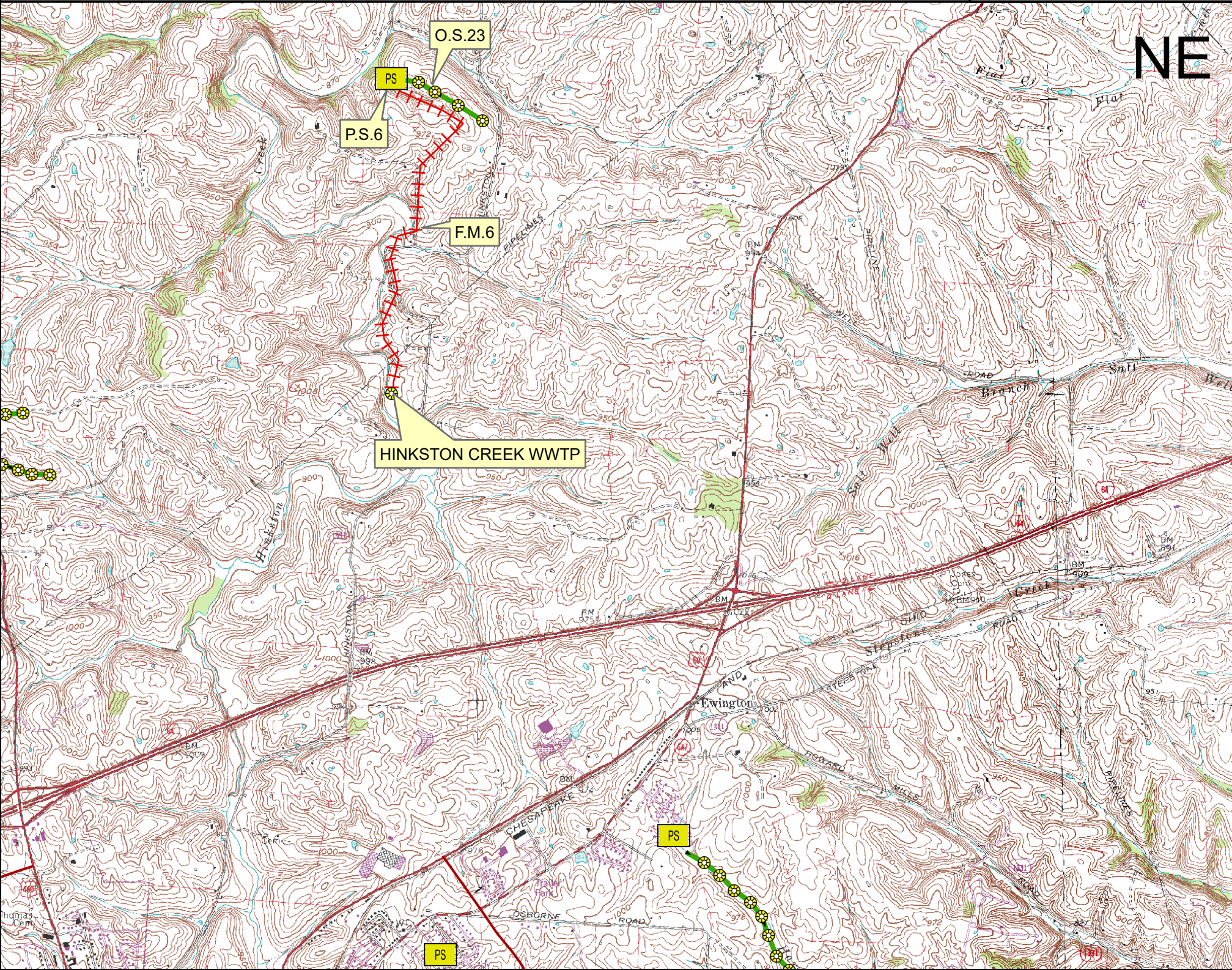
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8-3

Legend

- PS Pump_stations
- Manholes
- Sewer
- Force_main

NW	NE
SW	SE



Date: 1/27/2020
Drawn: WTD
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EXHIBIT 8-4
WASTEWATER COLLECTION SYSTEM
IMPROVEMENTS
NE QUADRANT
WASTEWATER FACILITIES PLAN

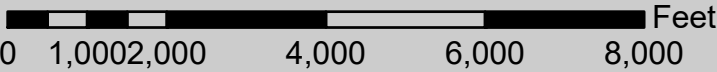
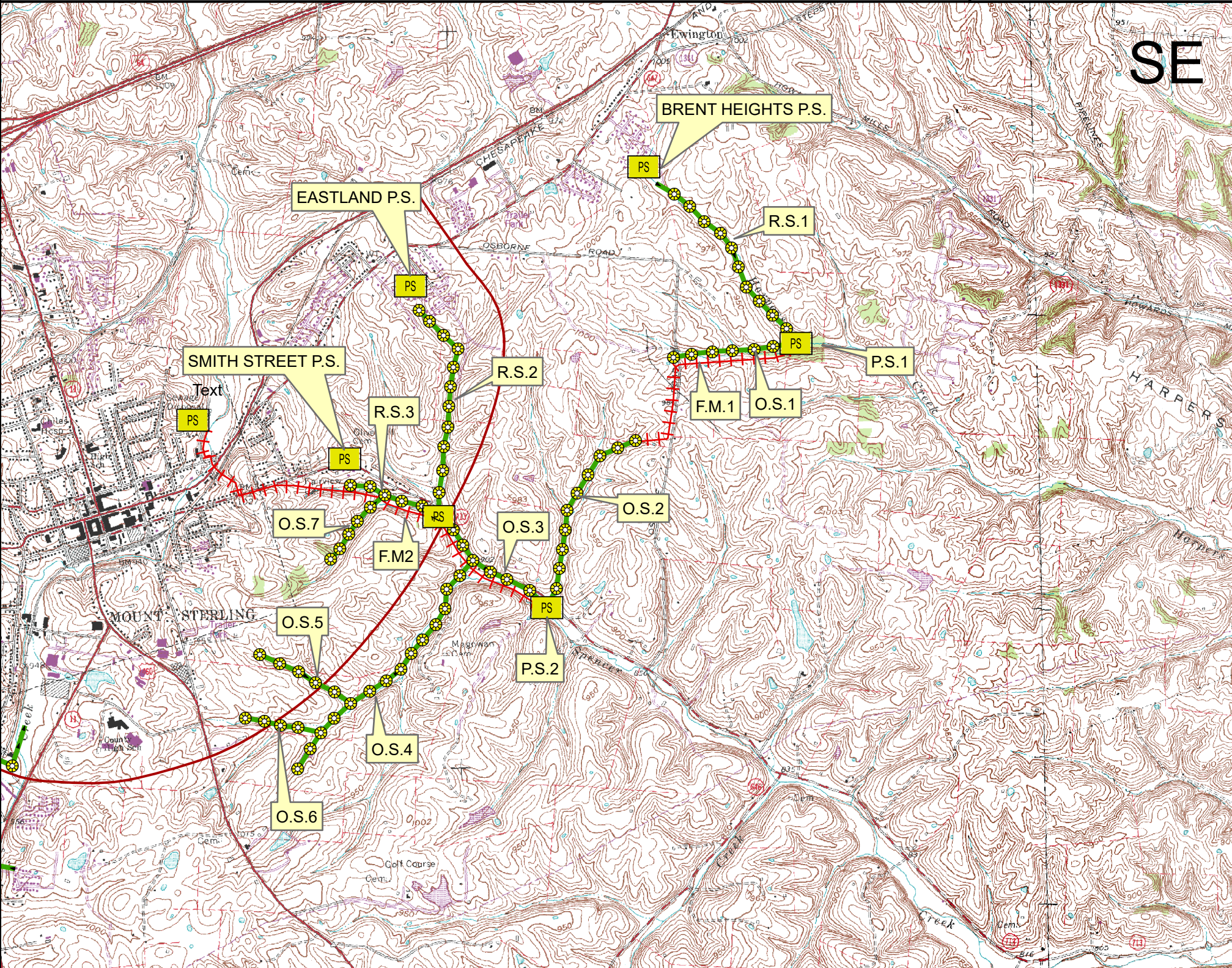
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8-4

Legend

- PS Pump_stations
- Manholes
- Sewer
- Force_main

NW	NE
SW	SE



Date: 1/27/2020
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EXHIBIT 8-5
WASTEWATER COLLECTION SYSTEM
IMPROVEMENTS
SE QUADRANT
WASTEWATER FACILITIES PLAN

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Sheet:

8-5

EXHIBIT 8-6
OPINION OF PROBABLE PROJECT COSTS
HINKSTON CREEK WWTP
OXIDATION DITCH

Item No.	Description	Quantity	Units	Unit Price	Estimated Cost	Salvage Value
1	Influent Pump Station Modifications					
1a.	IPS Equipment	1	LS	\$ 150,000.00	\$ 150,000.00	\$ -
2	Mechanical Bar Screen and Headworks					
2a.	Screening Building Improvements	1	LS	\$ 50,000.00	\$ 50,000.00	\$ -
2b.	Screening Equipment	1	LS	\$ 150,000.00	\$ 150,000.00	\$ -
3	Oxidation Ditch					
3a.	New Oxidation Ditch Basins (1.45 MG)	1	LS	\$ 3,375,000.00	\$ 3,140,000.00	\$ 1,256,000.00
3b.	Oxidation Ditch Equipment	1	LS	\$ 650,000.00	\$ 650,000.00	\$ -
3c.	Replacement of Aerators, Existing Units	4	LS	\$ 250,000.00	\$ 1,000,000.00	
4	Secondary Clarifiers (1 Required)					
4a.	Clarifier Structure (91 ft Diam.)	1	LS	\$ 550,000.00	\$ 550,000.00	\$ 220,000.00
4b.	Clarifier Equipment	1	LS	\$ 250,000.00	\$ 250,000.00	\$ -
5	RAS/WAS Pump Station Modifications					
5a.	RAS/WAS Piping & Appurtenances	1	LS	\$ 100,000.00	\$ 100,000.00	\$ 20,000.00
5b.	RAS/WAS Pumps	1	LS	\$ 150,000.00	\$ 150,000.00	\$ -
6	UV Disinfection Facility Modifications					
6a.	UV Structure Modifications	1	LS	\$ 75,000.00	\$ 75,000.00	\$ 30,000.00
6b.	UV Equipment	1	LS	\$ 175,000.00	\$ 175,000.00	\$ -
7	Post Aeration System Modifications					
8	Flow Measurement Modifications	1	LS	\$ 35,000.00	\$ 35,000.00	\$ -
9	Chemical Feed System Modifications	1	LS	\$ 50,000.00	\$ 50,000.00	\$ -
10	Solids Processing Equipment Modifications	1	LS	\$ 1,000,000.00	\$ 1,000,000.00	\$ -
11	Stand-By Power Modifications	1	LS	\$ 200,000.00	\$ 200,000.00	\$ -
12	Yard Piping	1	LS	\$ 250,000.00	\$ 250,000.00	\$ 50,000.00
13	Miscellaneous	1	LS	\$ 200,000.00	\$ 200,000.00	\$ -
14	Mechanical, Electrical & Instrumentation (12% of Total)	1	LS	\$ 919,000.00	\$ 919,000.00	\$ -
Sub-Total					\$ 9,094,000.00	
Construction Contingency @ 10%					\$ 909,400.00	
Sub-Total – Construction Costs (Rounded to the nearest \$10,000)					\$ 10,000,000.00	
Project Development Costs					\$ 2,320,000.00	
Total – Project Costs					\$ 12,320,000.00	
Salvage Value						
Proposed Salvage Value in 20 Years					\$	1,576,000
Salvage Value Present Worth (5% @ 20 Yrs)					\$	594,152

Note: Salvage Values for Structures is 40% of the structure alone.
Underground Piping Salvage Value is 20%.
Equipment Salvage Value is 0%.

EXHIBIT 8-7
OPERATION AND MAINTENANCE COSTS
HINKSTON CREEK WWTP
OXIDATION DITCH PROCESS

O&M Costs				
General Overhead Costs				
Labor Costs (5 Employees)			\$	250,000
Maintenance Costs (25% of Labor)			\$	62,500
Miscellaneous Costs (25% of Labor)			\$	62,500
Total General Overhead Costs			\$	375,000.00
Power Costs				
Type of unit	Number of Units	Horsepower per Unit	Operating Hours	Horsepower Hrs.
Influent Duty Pumps	6	40	12	2,880
Mechanical Bar Screen and Washer Compactor	2	2	12	48
Oxidation Ditch Aerators	4	120	12	5,760
Anaerobic Mixers	4	1	24	96
Anoxic Mixers	2	7.5	24	360
Clarifiers	2	1	24	48
WAS Pump Station	2	20	8	320
RAS Pump Station	4	20	24	1,920
UV Disinfection (Approximately 10,000 kw-hr/yr/mgd)	1	20	24	480
Post aeration System Blowers	2	15	12	360
Non-Potable Water Pumps	2	15	2	60
Chemical Feed System	1	0.5	12	6
Belt Filter Press	1	5	12	60
Total Horsepower Hrs.				12,398
Daily Power Usage (kw-hr/day)				9,249
Yearly Power Usage (kw-hr/year)				3,375,851
Power Cost (per kw-hr)				\$ 0.07
Annual Power Cost				\$ 236,309.60
Chemical Costs				
Type of Chemical	Pounds Used	Cost per Pound	Total Cost Per Day	
Polymer	50	2.63	\$	131.50
Aluminum Salts	25	4.5	\$	112.50
				\$ 89,060.00
Solids Disposal Costs				
Solids Produced (dry lbs/day)				7,500
Solids Produced (dry tons/day)				3.75
Distance to Landfill (Miles)				110
Cost Per Mile				\$ 0.55
Tipping Fee (\$/ton)				\$ 35.00
Hauling Cost per Day				\$ 60.50
Tipping Costs per Day				\$ 131.25
Total Hauling Costs per Year				\$ 47,966.75
Total Operation and Maintenance Costs				
Annual O & M Costs			\$	748,336.35
Present Worth (5% for 20 Years, PWF=12.462)			\$	9,325,767.59

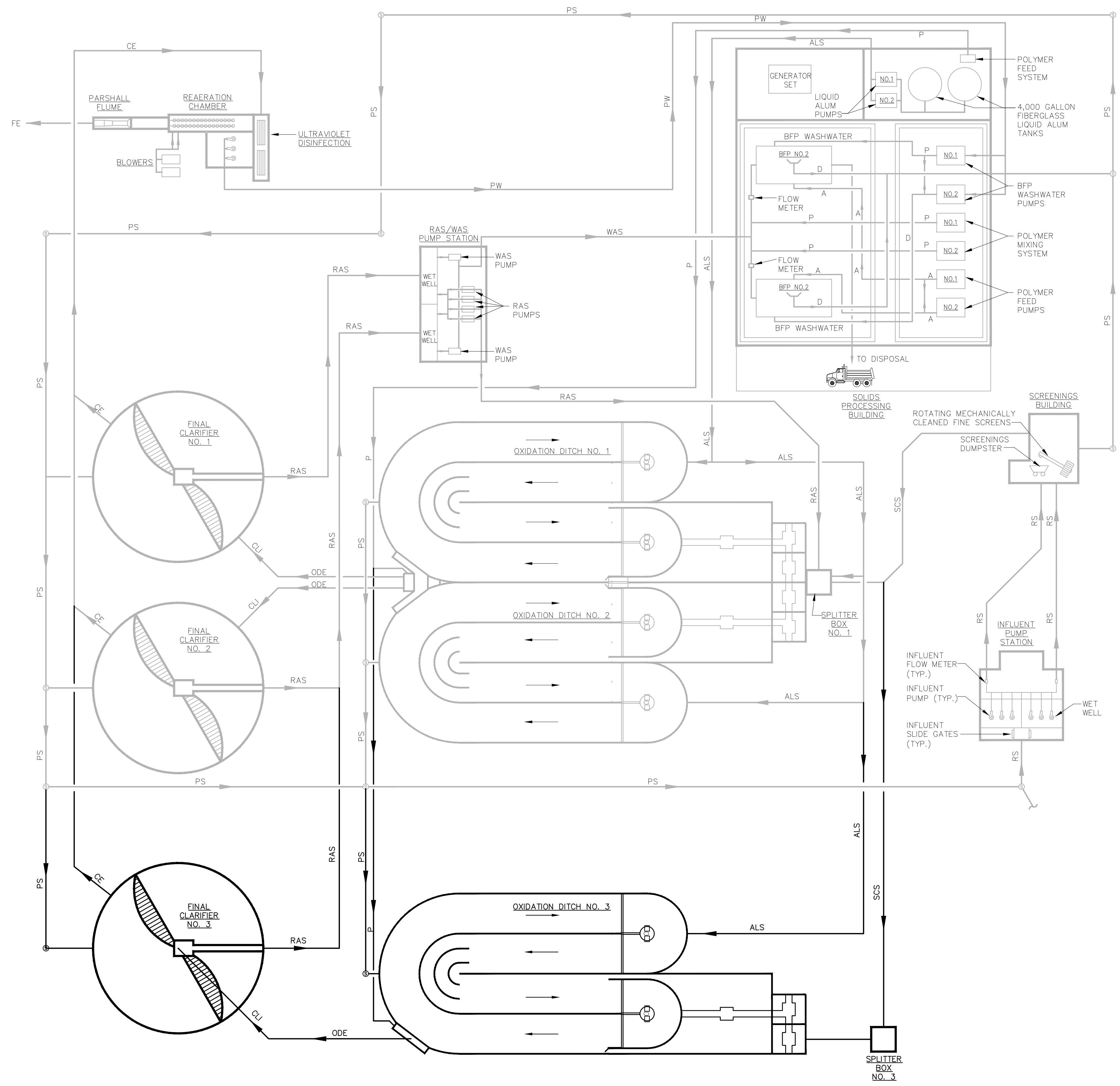


EXHIBIT 8-8
OXIDATION DITCH EXPANSION
HINKSTON CREEK WWTP SCHEMATIC
WASTEWATER FACILITIES PLAN
CITY OF MT. STERLING, KENTUCKY

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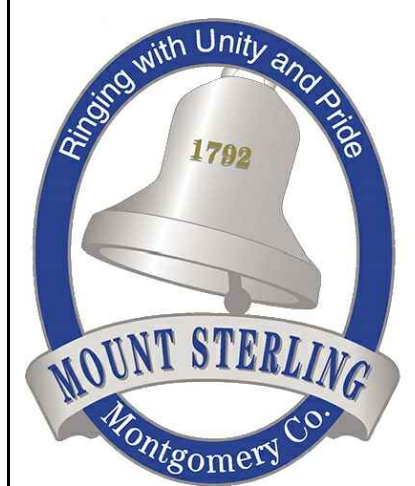


EXHIBIT 8-9
OPINION OF PROBABLE PROJECT COSTS
HINKSTON CREEK WWTP
IFAS Modifications

Item No.	Description	Quantity	Units	Unit Price	Estimated Cost	Salvage Value
1	Influent Pump Station Modifications					
1a.	IPS Equipment	1	LS	\$ 150,000.00	\$ 150,000.00	\$ -
2	Mechanical Bar Screen and Headworks					
2a.	Screening Building	1	LS	\$ 50,000.00	\$ 50,000.00	\$ 20,000.00
2b.	Screening Equipment	1	LS	\$ 150,000.00	\$ 150,000.00	\$ -
3	Oxidation Ditch Modifications					
3a.	Oxidation Ditch Basin Modifications (1.45 MG) IFAS	2	LS	\$ 1,500,000.00	\$ 3,000,000.00	\$ 1,200,000.00
3b.	Oxidation Ditch Equipment Modifications	2	LS	\$ 900,000.00	\$ 1,800,000.00	\$ -
3c.	Replacement of Aerators, Existing Units	4	LS	\$ 250,000.00	\$ 1,000,000.00	
4	Secondary Clarifiers (1 Required)					
4a.	Clarifier Structure (91 ft Diam.)	1	LS	\$ 550,000.00	\$ 550,000.00	\$ 220,000.00
4b.	Clarifier Equipment	1	LS	\$ 250,000.00	\$ 250,000.00	\$ -
5	RAS/WAS Pump Station Modifications					
5a.	RAS/WAS Piping & Appurtenances	1	LS	\$ 100,000.00	\$ 100,000.00	\$ 20,000.00
5b.	RAS/WAS Pumps	1	LS	\$ 150,000.00	\$ 150,000.00	\$ -
6	UV Disinfection Facility Modifications					
6a.	UV Structure	1	LS	\$ 75,000.00	\$ 75,000.00	\$ 30,000.00
6b.	UV Equipment	1	LS	\$ 175,000.00	\$ 175,000.00	\$ -
7	Post Aeration System Modifications					
8	Flow Measurement Modifications	1	LS	\$ 35,000.00	\$ 35,000.00	\$ -
9	Chemical Feed System Modifications	1	LS	\$ 50,000.00	\$ 50,000.00	\$ -
10	Solids Processing Equipment Modifications	1	LS	\$ 1,000,000.00	\$ 1,000,000.00	\$ -
11	Stand-By Power Modifications	1	LS	\$ 200,000.00	\$ 200,000.00	\$ -
12	Yard Piping	1	LS	\$ 100,000.00	\$ 100,000.00	\$ 20,000.00
13	Miscellaneous	1	LS	\$ 200,000.00	\$ 200,000.00	\$ -
14	Mechanical, Electrical & Instrumentation (20% of Total)	1	LS	\$ 1,177,000.00	\$ 1,177,000.00	\$ -
Sub-Total					\$ 10,212,000.00	
Construction Contingency @ 10%					\$ 1,021,200.00	
Sub-Total - Construction Costs (Rounded to the nearest \$10,000)					\$ 11,230,000.00	
Project Development Costs					\$ 2,605,360.00	
Total - Project Costs (Rounded to the nearest \$10,000)					\$ 13,840,000.00	
Salvage Value						
Proposed Salvage Value in 20 Years					\$	1,510,000
Salvage Value Present Worth (5% @ 20 Yrs)					\$	569,270

Note: Salvage Values for Structures is 40% of the structure alone.
Underground Piping Salvage Value is 20%.
Equipment Salvage Value is 0%.

EXHIBIT 8-10
OPERATION AND MAINTENANCE COSTS
HINKSTON CREEK WWTP
IFAS PROCESS

O&M Costs				
General Overhead Costs				
Labor Costs (5 Employees)			\$	250,000
Maintenance Costs (25% of Labor)			\$	62,500
Miscellaneous Costs (25% of Labor)			\$	62,500
Total General Overhead Costs			\$	375,000.00
Power Costs				
Type of unit	Number of Units	Horsepower per Unit	Operating Hours	Horsepower Hrs.
Influent Duty Pumps	6	40	12	2,880
Mechanical Bar Screen and Washer Compactor	2	2	12	48
IFAS Aeration Blowers	6	100	24	14,400
Anaerobic Mixers	4	1	24	96
Anoxic Mixers	2	7.5	24	360
Clarifiers	2	1	24	48
WAS Pump Station	2	20	8	320
RAS Pump Station	4	20	24	1,920
UV Disinfection (Approximately 10,000 kw-hr/yr/mgd)	1	20	24	480
Post aeration System Blowers	2	15	12	360
Non-Potable Water Pumps	2	15	2	60
Chemical Feed System	1	0.5	12	6
Belt Filter Press	1	5	12	60
Total Horsepower Hrs.				21,038
Daily Power Usage (kw-hr/day)				15,694
Yearly Power Usage (kw-hr/year)				5,728,437
Power Cost (per kw-hr)				\$ 0.07
Annual Power Cost				\$ 400,990.59
Chemical Costs				
Type of Chemical	Pounds Used	Cost per Pound	Total Cost Per Day	
Polymer	50	2.63	\$ 131.50	
Aluminum Salts	25	4.5	\$ 112.50	
				\$ 89,060.00
Solids Disposal Costs				
Solids Produced (dry lbs/day)				7,500
Solids Produced (dry tons/day)				3.75
Distance to Landfill (Miles)				110
Cost Per Mile				\$ 0.55
Tipping Fee (\$/ton)				\$ 35.00
Hauling Cost per Day				\$ 60.50
Tipping Costs per Day				\$ 131.25
Total Hauling Costs per Year				\$ 47,966.75
Total Operation and Maintenance Costs				
Annual O & M Costs			\$	913,017.34
Present Worth (5% for 20 Years, PWF=12.462)			\$	11,378,022.11

Section 9

Cross-Cutter Correspondence and Mitigation

SECTION 9
CROSS CUTTER CORRESPONDENCE AND MITIGATION

Cross cutter letters were sent to the following agencies:

Kentucky Heritage Council

Army Corp of Engineers

U.S. National Resource Conservation Service

U.S. Department of the Interior, Fish and Wildlife

Kentucky e-clearinghouse





February 21, 2020

Mr. Craig Potts, Executive Director and State Historic Preservation Officer
The Barstow House
410 High Street
Frankfort, Kentucky 40601

RE: Wastewater Capacity Upgrade Project
SAI#KY201908011057
Mount Sterling Water and Sewer
Mount Sterling, Kentucky

Dear Mr. Potts:

As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund, please review and comment on the proposed project. The Hinkston Creek Wastewater Treatment Plant project will increase the wastewater treatment plant capacity and efficiency, and will impact public health by ensuring Mount Sterling's treatment capabilities are adequate. A map of the proposed project location is enclosed.

Please advise of any present concerns your office may have related to possible effects of the above-mentioned project. We would appreciate a written response within 30 calendar days, if possible. If you need any further information or wish to discuss the project, please contact me at (859)278-5412 or dschrader@hkbell.com.

Sincerely,
Bell Engineering

A handwritten signature in blue ink that reads "David F. Schrader".

David F. Schrader, P.E.
Vice President

Enclosure

c: Rick Fletcher, General Manager, MSWS
Lee Nalley, SPOC, Kentucky State Clearinghouse

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2480 fortune drive, suite 350, lexington, kentucky 40509
859.275.5412 phone 859.278.2911 fax www.hkbell.com
bell engineering. creating. improving. planning for the future.



February 21, 2020

Mr. Tony Burnett, Supervisory Natural Resource Manager
U.S. Natural Resources Conservation Service
Mount Sterling Service Center
509 Willin Way Suite 2
Mount Sterling, KY 40353

**RE: Wastewater Capacity Upgrade Project
SAI#KY201908011057
Mount Sterling Water and Sewer
Mount Sterling, Kentucky**

Dear Mr. Burnett:

As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund, please review and comment on the proposed project. The Hinkston Creek Wastewater Treatment Plant project will increase the wastewater treatment plant capacity and efficiency, and will impact public health by ensuring Mount Sterling's treatment capabilities are adequate. A map of the proposed project location is enclosed.

Please advise of any present concerns your office may have related to possible effects of the above-mentioned project. We would appreciate a written response within 30 calendar days, if possible. If you need any further information or wish to discuss the project, please contact me at (859)278-5412.

Sincerely,
Bell Engineering

A handwritten signature in blue ink, appearing to read "David F. Schrader".

David F. Schrader, P.E.
Vice President

Enclosure

c: Rick Fletcher, General Manager, MSWS
Lee Nalley, SPOC, Kentucky State Clearinghouse

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February 21, 2020

U.S. Army Corps of Engineers, South Branch (RDS)
District Office
RDS, Room 752
PO Box 59
Louisville, Kentucky 40201-0059

**RE: Wastewater Capacity Upgrade Project
SAI#KY201908011057
Mount Sterling Water and Sewer
Mount Sterling, Kentucky**

Sir or Madam:

As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund, please review and comment on the proposed project. The Hinkston Creek Wastewater Treatment Plant project will increase the wastewater treatment plant capacity and efficiency, and will impact public health by ensuring Mount Sterling's treatment capabilities are adequate. A map of the proposed project location is enclosed.

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Sincerely,
Bell Engineering

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David F. Schrader, P.E.
Vice President

Enclosure

c: Rick Fletcher, General Manager, MSWS
Lee Nalley, SPOC, Kentucky State Clearinghouse

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February 21, 2020

Mr. Virgil Lee Andrews, Jr., Field Office Supervisor
U.S. Department of the Interior, Fish and Wildlife Service
J.C. Watts Federal Building
330 West Broadway, Suite 265
Frankfort, Kentucky 40601

**RE: Wastewater Capacity Upgrade Project
SAI#KY201908011057
Mount Sterling Water and Sewer
Mount Sterling, Kentucky**

Dear Mr. Andrews:

As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund, please review and comment on the proposed project. The Hinkston Creek Wastewater Treatment Plant project will increase the wastewater treatment plant capacity and efficiency, and will impact public health by ensuring Mount Sterling's treatment capabilities are adequate. A map of the proposed project location is enclosed.

Please advise of any present concerns your office may have related to possible effects of the above-mentioned project. We would appreciate a written response within 30 calendar days, if possible. If you need any further information or wish to discuss the project, please contact me at (859)278-5412 or dschrader@hkbell.com.

Sincerely,
Bell Engineering

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David F. Schrader, P.E.
Vice President

Enclosure

c: Rick Fletcher, General Manager, MSWS
Lee Nalley, SPOC, Kentucky State Clearinghouse

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ANDY BESHEAR
GOVERNOR

MIKE BERRY
SECRETARY

**TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY HERITAGE COUNCIL**

THE STATE HISTORIC PRESERVATION OFFICE

410 HIGH STREET
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-7005
FAX (502) 564-5820
www.heritage.ky.gov

CRAIG A. POTTS
EXECUTIVE DIRECTOR
& STATE HISTORIC
PRESERVATION OFFICER

RECEIVED

MAR 16 20

Bell Engineering
Front Desk

March 9, 2020

David F. Schrader
Bell Engineering
Vice President
2480 Fortune Drive, Suite 350
Lexington, KY 40509

Re: Section 106 Review and Compliance
Wastewater Capacity Upgrade Project
Mount Sterling, Montgomery County, Kentucky

Dear David F. Schrader:

Our review indicates that the proposed project will not likely impact any properties or sites that are listed in or eligible for the National Register of Historic Places. The proposed project should not require an archaeological survey or cultural historic survey. It is unlikely that any historic properties will be affected.

In the event that human remains are encountered during project activities, all work should be immediately stopped in the area. The area should be cordoned off, and in accordance with KRS 72.020 the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to the Kentucky Heritage Council.

Should the project plans change, or should additional information become available regarding cultural resources or citizens' concerns regarding impacts to cultural resources, please submit that information to our office as additional consultation may be warranted. Should you have any questions, feel free to contact Yvonne Sherrick of my staff at yvonne.sherrick@ky.gov.

Sincerely,

Craig A. Potts,
Executive Director and
State Historic Preservation Officer

CP: KHC # 57104-9

KENTUCKY HERITAGE COUNCIL COVER SHEET FOR SECTION 106 REVIEW AND COMPLIANCE

When federal (and some state) funds, permits or approvals are needed for a project, regulations such as 36 CFR Part 800 require these agencies or their delegates to consult with the Kentucky Heritage Council/State Historic Preservation Office regarding the project's potential effects on historic properties. To facilitate our review, please provide the following information and applicable attachments. Our office will generate a response within 30 days of receipt. Incomplete submissions may be returned for more information.

SECTION 1: APPLICANT INFORMATION

Project Sponsor or Applicant: Mount Sterling Water and Sewer

Contact Person (name & position): David Schrader, Vice President, Bell Engineering

Return Address: 2480 Fortune Drive, Suite 350, Lexington, KY 40509

Telephone: (859)278-5412

Fax: 859-278-2911

Project Title: Wastewater Capacity Upgrade Project

SECTION 2: AGENCY INFORMATION

Funding/Permitting Agency: Clean Water State Revolving Fund

Agency Contact Person (name & position): Joel Murphy, SRF and SPAP Section

Telephone: (502)782-7024

E-mail: joel.murphy@ky.gov

SECTION 3: PROJECT LOCATION

E911 Street Address (or other description): 2775 Hinkston Pike, Mount Sterling, KY 40353

City/Township: Mount Sterling

County: Montgomery

Latitude: 38°06'01.6"N

Longitude: 83°55'17.0"W

SECTION 4: PROJECT TYPE (please check all that apply)

Proposed Activity: ☐ Demolition ☒ Rehabilitation ☐ Structural Relocation ☐ Trails
☒ New Construction ☐ Land and/or Building Acquisition ☐ Sewer/Water Lines ☐ Roads/Bridges
☐ Non-Construction Planning/Refinancing ☐ Other (describe):

SECTION 5: IDENTIFICATION OF KNOWN HISTORIC PROPERTIES

KHC Preliminary Site Check #:

OSA Preliminary Site Check #:

If your project involves ground disturbance, has the site been previously disturbed?

☒ Yes (describe in detail below) ☐ No

This site was previously disturbed when the existing wastewater treatment plant was originally constructed in 2001. A cultural assessment was performed at this time for the wastewater treatment plant area and gravity sewer line. Four previously unidentified prehistoric archaeological sites were identified and no further archaeological work was recommended. Please see attached report.

Is there anything over 50 years of age in or visible from the project location? ☐ Yes ☒ No

SECTION 6: ATTACHMENTS - Attach all as applicable

All documentation should be labeled with the project name or site address.

- ☒ Clear, current photographs of the project site and anything over 50 years of age in or visible from it.
- ☒ Site map/plan indicating the exact location and boundaries of the project area.
- ☒ Detailed description of the project (may include plans, scope of work, and other available information.)
- ☒ Documentation of prior ground disturbance (e.g. maps, photographs, underground utility plans, etc.)
- ☐ Any known information about the history/use of the property and local significance.

Submit all information to **Craig Potts, Executive Director/SHPO, Kentucky Heritage Council, 410 High Street, Frankfort, KY 40601.**

INSTRUCTIONS for Completing the Kentucky Heritage Council Section 106 Review and Compliance Cover Sheet

These instructions provide basic guidance for completing the *Kentucky Heritage Council Cover Sheet for Section 106 Review and Compliance*. While “Section 106” refers to requirements associated with federal funds or permits, this *Cover Sheet* should also be used if a state agency has required you to consult with our office. The Section 106 process outlined in regulations at 36 CFR Part 800 provides the parameters for our review of all projects, whether federal or state.

If you have questions about how to respond to any part of the *Cover Sheet*, please contact our office at (502) 564-7005 and ask to speak to one of the Section 106 reviewers. We will be glad to assist you. Please note: federal regulations allow our office 30 days from the time we receive a complete submission to issue comments. **Incomplete submissions may result in a request for additional information, requiring additional time beyond our prescribed 30 days.**

Section 1: Applicant Information

Project Sponsor or Applicant: Please list the name of the applicant or sponsor that is responsible for carrying the project out. This might be an agency, organization, unit of local government, business or individual.

Contact Person: Please list the name and position of the person we can contact if we have questions about this submission. This should be the person best suited to answer questions and serve as a regular point of contact if additional consultation is needed.

Telephone/ Email: Please provide the preferred contact information for the person named above.

Project Title: Please provide a simple project title that reflects the primary objective of the undertaking. If the project has any identifying number that has already been assigned (e- Clearinghouse SAI number, Corps of Engineers permit application number, FEMA disaster designation, etc.), you can include it here.

Section 2: Agency Information

Funding/Permitting Agency: Please list the federal or state agency or the funding or permit program that requires you to consult with our office. If there is more than one, identify the primary agency or program on the cover sheet, and provide information on additional agencies and programs as an attachment.

Contact Person: Please provide the name of your primary contact person at the agency/program listed above. (This will generally be the person you must supply with a comment letter from our office.)

Telephone/E-mail: Please provide the telephone number and/or email of the contact person listed above.

Section 3: Project Location

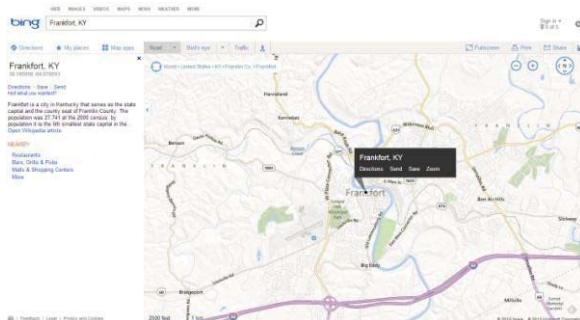
Street Address: Please list the E911 street address of the project location. If no street address has been assigned to the site, or if the project involves multiple properties or a linear project area, please provide a simple description of the location if possible and ensure maps you attach as part of Section 6 clearly show all places where project work will take place.

City/Township: Please list the nearest city or township to the project location.

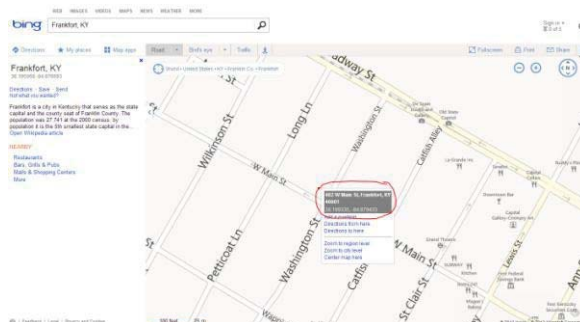
County: Please list the county/counties where the project will take place.

Latitude/Longitude: Please provide the latitude and longitude coordinates for the center point of your project area. Coordinates can be either decimal or degree/minute/second format. We recommend confirming the coordinates you provide to make sure they properly identify the project site. If your project is scattered site, please include coordinates for individual properties as an attachment. If your project is linear, please provide coordinates for the center point and be sure you include a map attachment which clearly shows the full project area.

To locate coordinates online using Bing Maps, go to <http://maps.bing.com> and type in the project address to get started. (If your project does not have an address, type a general location such as the nearest city.)

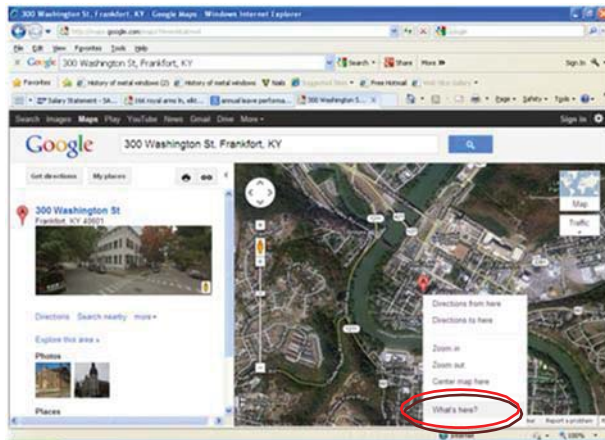


Next, zoom into your project area and right click your mouse to get the latitude and longitude.

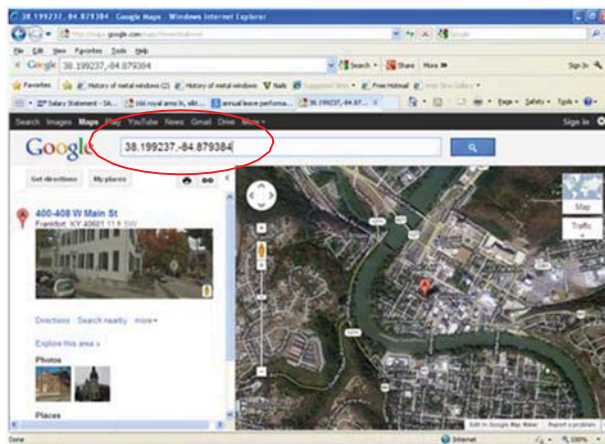


For more remote projects, you can still use Bing maps, but turn on the aerial layer to locate landmarks that help you accurately place your project.

To locate coordinates online using Google Maps, go to <http://maps.google.com> and enter the project address or a general location near your project area. When you locate your project site, right click on it and select “What’s here?”



The coordinates for your project site will appear in the Google Maps search line.



Both Bing and Google give you the latitude and longitude in decimal format. If you need to use degree, minute, second format for other purposes, you can find various converters on the internet, such as <http://transition.fcc.gov/mb/audio/bickel/DDDMMSS-decimal.html>. Remember the two formats are not the same, but KHC/SHPO can use either format.

Section 4: Project Type

Proposed Activity: Please indicate all of the activities that will take place as part of your project.

Section 5: Identification of Historic Properties

In the Section 106 process, federal (and sometimes state) agencies or their delegates have

responsibility to identify historic properties. An important first step can be to perform a preliminary site check of records already on file with the State Historic Preservation Office. In Kentucky, these records are maintained by the Site Identification program at the Kentucky Heritage Council and the Office of State Archaeology at the University of Kentucky. Preliminary site checks provide information about any prehistoric or historic resources already known to exist in a project area.

For above-ground resources, you have the option of conducting a free self-check of the paper records in the Kentucky Heritage Council office at The Barstow House, 410 High Street, in Frankfort. To do this, please contact the data manager at 502-564-7005, ext. 4564, or KHC-sitedata@ky.gov and ask to arrange a time to visit the Site Identification library and files. Alternatively, for a fee of \$40, this service can be performed on your behalf. Requests can be entered at the following link:

<https://secure.kentucky.gov/formservices/Heritage/SiteID>.

A similar preliminary site check of known archaeological resources is available for projects that include ground disturbance. Office of State Archaeology records are not open to the public. However, a qualified professional archaeologist may complete a search of the paper records on your behalf (OSA does not charge qualified archaeologists to physically access records), or you may visit the Office of State Archaeology website at <http://anthropology.as.uky.edu/office-state-archaeology> for more information on how to have a preliminary site check completed for you by UK staff.

Please note: not every archaeological site or building over 50 years of age in Kentucky has been previously surveyed. Preliminary site checks only provide information on currently known resources. The results do not preclude the need for additional research or survey to ensure all historic properties have been identified.

KHC Preliminary Site Check #: If you performed a self check of records at the Kentucky Heritage Council, please list the preliminary site check number provided by the staff from our Site Identification program. If you requested your preliminary site check online, please provide the transaction number you received.

OSA Preliminary Site Check #: If you retained an archaeologist to check paper records at the Office of State Archaeology, please list the site check number provided by your consultant. If you requested your preliminary site check online, please provide the transaction number you received. If there is no ground disturbance, enter “N/A.”

Ground Disturbance: If there has been previous ground disturbance at your project site, briefly describe the type and extent of the disturbance (more detail and supporting documentation including photographs should be submitted as an attachment.)

Ground disturbance that would preclude the need for an archaeological survey varies from project to project. Major earth disturbing activities such as strip mining nearly always preclude the need for survey. However other activities such as logging or plowing may not, depending on the types of resources that have been found in the area. In urban areas land that has been cleared for subdivisions or shopping centers may be disturbed, but parking lots often cap deposits, preserving them for archaeological study.

If you are working within the limits of a previous project (such as replacing outdated utility lines) make that clear in your submission, since this may count as ground disturbance, depending on the situation. Please note that agricultural activities and historic construction activities are not usually extensive enough to preclude an archaeological investigation if one is recommended.

Section 6: Attachments:

If there are any items on the cover sheet where you did not have sufficient space to enter the necessary information (multiple federal agencies/funding programs, coordinates for scattered site projects, etc.), please include these as part of the detailed description of your project.

The attachments listed represent the types of information most useful in completing our review. The more detail and documentation provided in attachments with your initial submission, the better the chances we will be able to provide comment within our 30-day review period. As a reminder, if we need to request an attachment or more detailed information that was not included in your initial submission, additional time beyond our normal 30-day review window will be required to prepare our comments.

For questions or assistance related to the cover sheet, call 502-564-7005 and ask to speak with a Section 106 Reviewer.



David Schrader <dschrader@hkbell.com>

LRL-2020-469 - Mt Sterling WWTP Upgrades1 message

Branham, Justin L CIV USARMY CELRL (USA) <Justin.L.Branham@usace.army.mil>

Mon, Jun 1, 2020 at 12:09

PM

To: "dschrader@hkbell.com" <dschrader@hkbell.com>

Dave,

Let me first apologize for being so late with this response, however with the pandemic and working from home, things seemed to slow down a bit but I think we have all the kinks worked out or at least it seems that way. Regardless, this will serve as our official response to the Environmental Review comment solicitation that was received in our office on March 16, 2020. Based on a review of the information, it does not appear that a permit would be required for the above referenced project as there are no proposed discharges of fill or dredged material into potential "waters of the U.S.". If the project changes and consequently necessitates the discharge of fill material into wetlands or potential waters of the U.S. please contact our office to determine permit requirements. If you have any questions, please feel free to contact me via email.

Thank you,

Justin Branham

Team Leader / Regulatory Specialist

U.S. Army Corps of Engineers - Louisville District Eastern Kentucky Regulatory Office

845 Sassafras Creek Road

Sassafras, KY 41759

Phone: 606-642-3208

Email: Justin.L.Branham@usace.army.mil

Comments on our Regulatory Services are invited:

http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey



MATTHEW G. BEVIN
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
100 AIRPORT ROAD, 3rd FLOOR
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606/ TDD:711
WWW.kydlgweb.ky.gov

SANDRA K. DUNAHOO
COMMISSIONER

September 3, 2019

Mr. Rick Fletcher
Mount Sterling Water and Sewer
300 East Main Street
Mount Sterling, KY 40353

RE: Wastewater Capacity Upgrade Project
SX21173075
SAI# KY201908011057
CFDA# 66.419

Dear Mr. Fletcher:

The Kentucky State e-Clearinghouse is the official designated Single Point of Contact (SPOC) for the Commonwealth pursuant to Presidential Executive Order 12372, and supported by Kentucky Statutes KRS 45.031. The primary function of the SPOC is to streamline the review aforementioned process for the applicant and the funding agency. This process helps in vocalizing the statutory and regulatory requirements. Information in the form of comments, if any, will be attached to this correspondence.

This proposal has been reviewed by the appropriate state agencies in the e-Clearinghouse for conflicts with state or local plans, goals and objectives. After receiving this letter, you should make it available to the funding agency and continue with the funding agencies application process. This e-clearinghouse SPOC letter signifies only that the project has followed the state reviewing requirements, and is neither a commitment of funds from this agency or any other state or federal agency. Please remember if any federal reviews are required the applicant must follow through with those federal agencies.

The results of this review are valid for one year from the date of this letter. If the project is not submitted to the funding agency or not approved within one year after the completion of this review, the applicant can request an extension by email to Lee.Nalley@ky.gov. If the project changes in any way after the review, the applicant must reapply through the eclearinghouse for a new review. There are no exceptions.

If you have any questions regarding this letter or the review process please contact the e-Clearinghouse office at 502-573-2382, ext. 274.

Sincerely,

A handwritten signature in blue ink that reads "Lee Nalley".

Lee Nalley, SPOC
Kentucky State Clearinghouse

Attachment

Department for Environmental Protection

Louanna Aldridge

Joel Murphy - Endorse with Comments The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: sewer lines and appurtenances and wastewater treatment plant rehabilitation. Prior approval must be obtained from the DOW before construction can begin. The applicant must cite the State Application Identifier (SAI #KY201908011057) when submitting plans and specifications.

This project is applying for Clean Water State Revolving Fund (CWSRF) 2020 Planning and Design Loan. A Facility Plan Update is required for the scope of work. If the Facility Plan Update is completed before July 2019, Mount Sterling would like to proceed with CWSRF 2020 Construction Loan. This project will increase capacity at Mt. Sterling's Hinkston Creek Wastewater Treatment Plant from the current 3.0 million gallons per day rating up to 6.0 million gallons per day. Also this project will increase designed organic loadings from 5,875 pounds per day up to 10,000 pounds per day. This upgrade is proposed to include increased influent pumping, additional screenings capacity, increased aerator capacity, additional disinfection capabilities and increase sludge removal and sludge treatment improvements. The expansion will be constructed on adjacent site that is owned by the City of Mount Sterling. The wastewater treatment plant pumps will be upgraded to energy efficient pumps and will include variable frequency drives (VFD). The existing aeration equipment will also be replaced with new highly efficient motors to reduce the overall electric usage and provide more efficient aeration. Supervisory Control and Data Acquisition (SCADA) will be installed on the upgraded equipment and the proposed expansion as well. Additional improvements at the Wastewater Treatment Plant will include a 50 foot riparian buffer zone along Hinkston Creek using the standard riparian plantings and criteria. This project will also increase capacity on the South Queen Street sewer main that is currently experiencing sanitary sewer overflows. The existing 8-inch aging and undersized sewer line will be replaced with 12-inch PVC and will eliminate a 90 degree angle that contributes to the overflow issue. The South Queen Street area has also been identified as a source of inflow and infiltration (I/I) in the collection system. In addition to addressing the Sanitary Sewer Overflow due to undersized lines and the 90 degree angle, flow monitoring equipment will be purchased to verify flows from the lines that feed into the South Queen Street sewer main to determine areas for future line replacement to address I/I problems.

This project requires a new facility plan. An environmental review is required for a facility plan so the crosscutters should be mailed out as soon as possible to receive the required responses in a timely manner. Questions should be directed to Lori Dials, Municipal Planning Section, (502) 782-6937, Lori.Dials@ky.gov.

The Engineering Section of the Water Infrastructure Branch of the DOW does not oppose this project at this time. However, you need to submit Plans and Specification to the DOW for review. For the Facilities Plan Update you may need to notify the Planning Section at 502-782-6937 with questions related to planning issues. Construction of the wastewater component of this project shall not begin until written approval is received from the DOW. Questions should be directed to Mortaza Tabayeh, Engineering Section, (502) 782-7086, Mortaza.Tabayeh@ky.gov.

Best management practices should be utilized to reduce runoff from project construction activities into nearby waters. Questions should be directed to Andrea Fredenburg, Water Quality Branch, (502) 782-6950, Andrea.Fredenburg@ky.gov.

This proposed project is not within a designated Source Water Protection Area. Questions should be directed to Chloe Brantley, Water Supply Section, (502) 782-6898, Chloe.Brantley@ky.gov.

Endorse. Questions should be directed to Daniel Fraley, Field Operations Branch, (606) 783-8655, Daniel.Fraley@ky.gov.

The proposed work is endorsed by the Groundwater Section of the Watershed Management Branch. However, the proposed work is located in an area with a high potential for karst development where groundwater is susceptible to direct contamination from surface activities. It is our recommendation that proposed work be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection

of groundwater resources within that area. Questions should be directed to Kurtis Spears, Groundwater Section, (502) 782-7119, Kurtis.Spears@ky.gov or David Jackson, Groundwater Section, (502) 782-6986, DavidA.Jackson@ky.gov.

For pipeline stream crossings that are not covered under 401 KAR 4:050, a Kentucky DOW Application for Permit to Construct Across or Along a Stream must be submitted. Questions should be directed to Ron Dutta, Floodplain Management Section, (502) 782-6941, Ramendra.Dutta@ky.gov.

The Division of Enforcement does not object to the project proposed by the applicant. Questions should be directed to Tim Harrod, Division of Enforcement, (502) 782-6858, Timothy.Harrod@ky.gov.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, www.epa.gov/waterinfrastructure/, contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative. John Poore - Endorse with Comments UST Branch records indicate the following underground storage tank site issues identified within the project impact area:

Closed Site:

Mount Sterling WWTP

MASTER AI ID: 3192

LONGITUDE: -83.935555

LATITUDE: 38.061668

If any UST's are encountered during the project construction they should be reported to KDWM. Any UST issues or questions should be directed to the UST Branch.

Superfund Branch records indicate no superfund site issues identified within the project impact area. Any superfund issues or questions should be directed to the Superfund Branch.

Solid Waste Branch records indicate no active or historic landfill sites within the project impact area. The following solid waste site is within the project impact area:

MASTER AI ID: 3192

MASTER AI NAME: Mount Sterling WWTP

USER GROUP DESCRIPTION: DWMSWB- General

ALTERNATE AI ID: sw00600002

LONGITUDE: -83.935555

LATITUDE: 38.061668

Any solid waste issues or questions should be directed to the Solid Waste Branch.

Hazardous Waste Branch records indicate no hazardous waste issues identified within the project impact area. Any hazardous waste issues or questions should be directed to the Hazardous Waste Branch.

RLA Branch records indicates no RLA tracked open dumps within the project impact area. Any questions or issues should be directed to the RLA Branch.

All solid waste generated by this project must be disposed of at a permitted facility.

If asbestos, lead paint and/or other contaminants are encountered during this project contact the Division of Waste Management for proper disposal and closure.

The information provided is based on those facilities or sites that KDWM currently has in its database. If you would like additional information on any of these facilities or sites, you may contact the file room custodian at (502) 782-6357. Please keep in mind additional locations of releases, potential contamination or waste facilities may be present but unknown to the agency. Therefore, it is recommended that appropriate precautions be taken during construction activities. Please report any evidence of illegal waste disposal facilities and releases of hazardous substances, pollutants, contaminants or petroleum to the 24-hour Environmental Response Team at 1-800-928-2380.

Division of Enforcement

Tim Harrod

The Division of Enforcement does not object to the project proposed by the applicant.

Tim Harrod, Enforcement Specialist Division of Enforcement Timothy.Harrod@ky.gov

Division of Water

Andrea Fredenburg

Best management practices should be utilized to reduce runoff from project construction activities into nearby waters.

DOW

Daniel Fraley

Endorse

DOW

Mortaza Tabayeh

The Engineering Section of the Water Infrastructure Branch of the Division of Water does not oppose this project at this time. However, you need to submit Plans and Specification to the D.O.W for review.

For the Facilities Plan Update you may need to be notified planning section. Contact Planning Section regarding facilities plan update at 502-782-6937 with questions related to planning issues.

Construction of the wastewater component of this project shall not begin until written approval is received from the Division of Water, if you have questions please contact Mortaza Tabayeh at (502) 782-7086 or at mortaza.tabayeh@ky.gov

Fish and Wildlife

Dan Stoelb

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. Please contact Dan Stoelb @ 502-892-4453 or Daniel.Stoelb@ky.gov if you have further questions or require additional information.

Gateway ADD

Paula Thomas

Gateway Area Development District has no comments concerning the proposed project. The Gateway Area Water Management Council is actively involved in the planning and development of water and wastewater related projects in its five county service area.

Kentucky Division of Water

Chloe Brantley

Project filed.

Kentucky Infrastructure Authority

Don Schierer

This project was reviewed in the WRIS Portal by KIA staff.

KY Department of Housing Buildings and Construction

Duane Curry

The Kentucky Department of Housing, Buildings and Construction approves with no comments.

KY Division of Water

Lori Dials

This project requires a new facility plan. An environmental review is required for a facility plan so the crosscutters should be mailed out as soon as possible to received the required responses in a timely manner.

KY Division of Water
Allan Shingleton

For pipeline stream crossings that are not covered under 401 KAR 4:050, a Kentucky Division of Water Application for Permit to Construct Across or Along a Stream must be submitted. Questions should be directed to Ron Dutta at 502-782-6941 or Ramendra.Dutta@ky.gov

This proposed project is not within a designated Source Water Protection Area. Questions should be directed to Chloe Brantley at 502-782-6898 or Chloe.Brantley@ky.gov

KY Heritage Council
Yvonne Sherrick

To receive a review from the KY Heritage Council/State Historical Preservation Office (SHPO) you must follow the instructions located on their website at <http://www.heritage.ky.gov/siteprotect/> . There you will find the required documents for the Section 106 Review and Compliance for 36 CFR Part 800. This Section 106 submission process to SHPO will assist applicants and agencies in providing the appropriate level of information to receive comments from SHPO. If you have any questions please contact Yvonne Sherrick, Administrative Specialist III, (502) 564-7005, Ext. 113, yvonne.sherrick@ky.gov.

Please note: If your project is funded through Transportation Alternative (TAP), Transportation Enhancements (TE), Congestion, Mitigation, Air Quality (CMAQ), or Safe Routes to School (SRTS) you will need to send this information to Michael Jones, Historic Preservation Program Administrator with the Kentucky Transportation Cabinet via email MichaelR.Jones2@ky.gov or hard copy to Michael Jones, Office of Local Programs, KY Transportation Cabinet, 200 Mero Street Frankfort, KY 40622. Do not send materials directly to SHPO if your project involves funding from these four sources as it will cause delays in the review process. Michael Jones will consult directly with the SHPO on projects with these funding sources to complete the Section 106 review.

KY. Division of Water
Kurtis Spears

The proposed work is endorsed by the Groundwater Section of the Watershed Management Branch. However, the proposed work is located in an area with a high potential for karst development where groundwater is susceptible to direct contamination from surface activities. It is our recommendation that proposed work be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection of groundwater resources within that area. Questions should be directed to Kurtis Spears (502-782-7119) or Section Supervisor David Jackson (502-782-6986).

KYTC District 7
Robin Sprague

No comments.



United States Department of Agriculture

Natural Resources Conservation Service
Owensboro USDA Service Center
3100 Alvey Park Drive W
Owensboro, KY 42303

March 11, 2020

David F Schrader, P.E.
Vice President
Bell Engineering
2480 Fortune Drive, Suite 350
Lexington, KY 40509

RE: WASTEWATER CAPACITY UPGRADE PROJECT—MOUNT STERLING WATER AND SEWER

Dear Mr. Schrader:

In response to your request from 2/21/2020 to Mr. Tony Burnett regarding the Hinkston Creek Wastewater Treatment Plant project in Mount Sterling, Kentucky, the Natural Resources Conservation Service (NRCS) has no congressional authority for conducting Environmental Assessments (EA).

NRCS is mandated to provide information on the soils and/or impact to farmland according to the Farmland Protection Policy Act (P.L. 97-98) for projects that will be utilizing federal monies.

Based on the information gathered from your request, your accompanying maps, and on site data, no conversion of agricultural lands (PRIME OR STATEWIDE IMPORTANT FARMLAND) will occur or be negatively impacted by the proposed undertaking. Fellow NRCS Soil Scientist, Scott Aldridge, determined on site that the site had already been 'converted' and previously removed from agricultural production. This being the case, any PRIME OR STATEWIDE IMPORTANT FARMLAND that was present would no longer exist.

Therefore, this office has no additional concerns at this time. If we may be of additional assistance, please do not hesitate to contact me or Scott Aldridge.

Sincerely,

A handwritten signature in black ink, reading "Perri Pedley", is located below the "Sincerely," text.

Perri Pedley
Soil Scientist
Perri. Pedley@usda.gov

Cc:

Scott Aldridge, USDA-NRCS, Winchester, KY
Tony Burnett, USDA-NRCS, Grayson, KY



February 21, 2020

RECEIVED

FEB 28 2020

USFWS KYFO

Significant impacts to federally-listed species are not likely to result from this project as currently proposed. Project re-coordination is needed if the project changes or if new species or critical habitats are listed that could be impacted by the project.

For

Kentucky Field Supervisor
U.S. Fish and Wildlife Service

Date

Mr. Virgil Lee Andrews, Jr., Field Office Supervisor
U.S. Department of the Interior, Fish and Wildlife Service
J.C. Watts Federal Building
330 West Broadway, Suite 265
Frankfort, Kentucky 40601

RE: Wastewater Capacity Upgrade Project
SAI#KY201908011057
Mount Sterling Water and Sewer
Mount Sterling, Kentucky

Dear Mr. Andrews:

As part of the environmental review requirements pursuant to the State Environmental Review Process for the Kentucky Division of Water, Clean Water State Revolving Fund, please review and comment on the proposed project. The Hinkston Creek Wastewater Treatment Plant project will increase the wastewater treatment plant capacity and efficiency, and will impact public health by ensuring Mount Sterling's treatment capabilities are adequate. A map of the proposed project location is enclosed.

Please advise of any present concerns your office may have related to possible effects of the above-mentioned project. We would appreciate a written response within 30 calendar days, if possible. If you need any further information or wish to discuss the project, please contact me at (859)278-5412 or dschrader@hkbell.com.

Sincerely,
Bell Engineering

David F. Schrader, P.E.
Vice President

Enclosure

c: Rick Fletcher, General Manager, MSWS
Lee Nalley, SPOC, Kentucky State Clearinghouse

I:\Projects\254 Mt. Sterling\Hinkston Creek WWTP\CrossCutters\USF&WSLtr(MSWS)-Bell 022120.doc



David Schrader <dschrader@hkbell.com>

Fwd: Fw: Wastewater Capacity Upgrade Project SAI# KY201908011057

1 message

Bryan Scott <bscott@hkbell.com>

Mon, Oct 5, 2020 at 12:12 PM

To: David Schrader <dschrader@hkbell.com>

David,

Please see the USFWS response below.

Thanks,
Bryan

----- Forwarded message -----

From: **KentuckyES, FW4** <kentuckyes@fws.gov>

Date: Mon, Oct 5, 2020 at 12:09 PM

Subject: Fw: Wastewater Capacity Upgrade Project SAI# KY201908011057

To: bscott@hkbell.com <bscott@hkbell.com>

Sir,

Our response to the proposed project was sent out back in March, please see attached. Please let us know if there are any questions

From: Hunter, Jumlongruk M on behalf of KentuckyES, FW4**Sent:** Monday, March 2, 2020 2:34 PM**To:** dschrader@hkbell.com <dschrader@hkbell.com>**Subject:** Wastewater Capacity Upgrade Project SAI# KY201908011057

The USFWS has determined that significant impacts to federally listed species are not likely to result from this project as currently proposed. Please see attached.

Thank you for your coordination with our office.

--

U.S Fish and Wildlife Service

KY Ecological Services Field Office

[330 W. Broadway, Room 265](#)[Frankfort, KY 40601](#)

502.695.0468 (office)

502.695.1024 (fax)

**Check us out at <https://www.fws.gov/frankfort/>

Kentucky Ecological Services Field Office

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SECTION 10 THE SELECTED PLAN

A. Recommended Plan

1. *Hinkston Creek WWTP – Oxidation Ditches*

As described in previous Sections of this report, the existing Hinkston Creek WWTP utilizes two (2) oxidation ditch enhanced biological nutrient removal (EBNR) systems and two (2) clarifiers for secondary treatment of wastewater. The selected alternative will add one (1) EBNR systems and one (1) additional clarifiers to bring the rated capacity of the treatment system to 6.0 mgd ADF and 16.0 mgd PDF. Nutrient removal will be accomplished primarily by the EBNR process with backup metal salt chemical feed systems. The existing chemical feed system is sized to handle the additional flows.

The selected alternative can be easily implemented since the piping associated with these improvements and the grading has already been completed with the 2000 construction. The proposed improvements include new influent pumps rated at 3 mgd each, a third screen, influent and effluent splitter boxes, one oxidation ditch, a new clarifier, upgraded UV disinfection and solids processing improvements. A detailed opinion of probable project costs can be found in Section 8 of this report.

SECTION 10 THE SELECTED PLAN

B. Summary of Project Costs

**TABLE 10-1
PROBABLE ESTIMATES OF PROJECT COSTS
FOR PHASED IMPROVEMENTS**

DESCRIPTION	0-2 YEARS	3-10 YEARS	11-20 YEARS
1. Wastewater Treatment Plants			
a. Hinkston Creek WWTP	\$12,320,000		
2. Southeast Quadrant Sewers			
Harpers Creek Outfall Sewer			\$1,814,000
Spencer Creek Outfall Sewer			\$5,196,000
Sub-Total Southeast Quadrant	\$12,320,000	\$0	\$7,010,000
3. Southwest Quadrant Sewers			
Outfall Sewer to Hinkston Creek Trunk			\$2,721,000
Reid Village Sewers		\$2,819,000	
Autumn Ridge Sewers		\$1,045,000	
Sub-Total Southwest Quadrant Sewers	\$0	\$3,864,000	\$2,721,000
4. Northwest Quadrant Sewers			
North Ridge/ Grand Prairie Sewers		\$884,000	
Sub-Total Southwest Quadrant Sewers	\$0	\$884,000	\$0
5. Northwest Quadrant Sewers			
Fox Chase Sewers		\$879,000	
Sub-Total Southwest Quadrant Sewers	\$0	\$879,000	\$0
6. Sanitary Sewer System Rehabilitation	\$180,000	\$250,000	\$250,000
TOTALS	\$ 12,500,000	\$ 5,877,000	\$ 9,981,000

Note: The MSWSS will endeavor to implement these projects as the community expands, however, if growth does not match the expected timelines, some projects may be delayed until funds are available.

SECTION 10

THE SELECTED PLAN

C. Impacts on the Environment

Cross cutter letters were sent to various state and federal agencies to determine if the selected alternatives would have an adverse impact on the environment. Responses from these agencies indicated that the proposed projects will not have any negative impact on floodplains, wetlands, air quality, ground water, surface water, threatened or endangered species, farm land, historical or archaeological sites. However, the State Historic Preservation Office (SHPO) requested that all areas that have not been previously surveyed, be surveyed by a qualified professional archaeologist and that a report of the investigation be sent to their office for review. A survey of the project locations will be conducted prior to any construction activities and the results of that survey will be sent to SHPO for review.

D. Institutional Responsibilities

The City of Mount Sterling has a city council form of government consisting of six members with a mayor presiding. The administration of day-to-day city affairs is conducted by the city council. Day to day operations of the wastewater system are managed by the Mount Sterling Water and Sewer System, whose members are appointed by the mayor. Mount Sterling has the legal authority, and will be the only local government entity involved in the planning, financing, construction, and operation of the proposed facilities.

The selected plan, as set forth in this facilities management plan will be implemented by the City of Mount Sterling. Chapter 94 of the Kentucky Revised Statutes provides for sewerage facilities within and outside the corporate limits. Chapter 82 of the Kentucky Revised Statutes provides authorization for cities to finance public improvements through the issuance of either general obligation or revenue bonds.

E. Funding Plan

The purpose of this section is to develop a preliminary funding plan for the implementation of the improvements described above and in detail in Section 8 of this report. This will require significant capital along with funding/financing to be successfully implemented. A multi-phased approach is recommended over the next 20 years totaling \$28,608,000 segmented into the 0-2 year, 3-10 year and 11-20 year phases.

SECTION 10 THE SELECTED PLAN

Phase 1 (0-2 Year)	-	\$12,500,000
Phase 2 (3-10 Year)	-	\$5,877,000
Phase 3 (11-20 Year)	-	\$9,981,000

This funding plan is based on the opinion of probable project costs and O&M costs outlined in Section 8 of this report. A large portion of the money required to fund these projects will be acquired through the issuance of Revenue Bonds and/or obtaining a Government Loan through the Kentucky Infrastructure Authority (KIA), Clean Water SRF Program. MSWSS has been successful in obtaining KIA SRF low-interest loans and will continue to pursue the most economically sound funding/finance options available.

It should be noted that the calculations presented in this section are based upon preliminary numbers; these calculations will be adjusted after actual construction costs are known through the bidding process. This section is intended to provide an order of magnitude of projected user charge increase for use in the planning process. The MSWSS will endeavor to implement these projects as the community expands, however, if growth does not match the expected timelines, some projects may be delayed until funds are available.

1. Funding Options

There are several funding options that will need to be evaluated including State Revolving Fund (SRF) Loans through the Kentucky Infrastructure Authority (KIA), General Obligation Bonds and Revenue Bonds.

a. SRF Loans

The Federally Assisted Wastewater Revolving Loan program, or Fund A, is a loan program administered through KIA. The standard rate is 2.5 percent and the non-standard rates are 1.5 percent and 0.5 percent for the period July 1, 2019, to June 30, 2020. (Rates are adjusted at least annually.) To qualify for the 0.5 percent hardship rate, the community's median household income must be below \$37,228 (80 percent of the MHI of the Commonwealth). To qualify for the 1.5 percent non-standard rate, the borrower must have an MHI between \$46,535 and \$37,339 (80 percent of the State MHI). Mount Sterling has an MHI of \$41,108 so they will qualify for an interest rate of 1.5 percent. A loan servicing fee of 0.2 percent of the unpaid balance will be due annually.

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THE SELECTED PLAN

1) 20 Year Term

The KIA offers a 20 - year loan payback program. The loan process requires 20 percent debt service coverage and loan payback at current market rates.

2) 30 Year Term

A second option would be a 30 - year loan payback program. The loan process requires 20 percent debt service coverage and loan payback at current market rates.

b. Municipal Bonds

States, counties and cities that seek financing for public projects may issue municipal bonds. By issuing these debt securities, the government is borrowing money from the public. The bondholders will be repaid the principal plus interest over a specific span of years. The two types of municipal bonds are general obligation bonds and revenue bonds. The difference between them lies in how the government issuer secures the money to repay the bondholders.

1) General Obligation Bonds

General obligation bonds are securities guaranteed by the “full faith and credit” of a government with taxing power. These bonds typically are used to finance capital improvement projects such as streets, roads and public buildings. With these bonds, the state or local government bond issuer pledges to use its general taxing power to repay the bondholders. Because these bonds place a general obligation on all taxpayers to cover bond repayments, the voters of a state or local government typically must approve general obligation bonds before they are issued.

2) Revenue Bonds

Revenue bonds are repaid from the revenues generated by the project the bonds finance. These bonds finance revenue-producing projects such as industrial parks, toll roads, convention centers, sports stadiums or water and sewer utilities. Projects may generate

SECTION 10 THE SELECTED PLAN

revenues through things like user fees, admission charges, rents or lease payments, or concession fees. In most instances, revenues from the project go into a revenue fund from which operating expenses and bond repayments are drawn.

F. Impact on User Charges

1. User Rates

The table below shows the current user rates for customers inside and outside the city limits:

**TABLE 10-2
CURRENT USER RATES
Effective 7/1/2019**

USAGE AMOUNT	CITY RATE	COUNTY RATE
First 748 gallons	\$9.76 minimum	\$10.24 minimum
Next 4,488 gallons	\$5.04 per 1,000 gallons	\$5.95 per 1,000 gallons
Next 9,724 gallons	\$4.35 per 1,000 gallons	\$5.09 per 1,000 gallons
Excess (Over 14,960 gallons)	\$3.80 per 1,000 gallons	\$4.48 per 1,000 gallons

Inside City Rate for 4,000 gallons per month = \$ 26.15
Outside City Rate for 4,000 gallons per month = \$ 29.59

Revenue generated from these user rates in 2019 totaled \$2,330,660. The following is a summary of the Sewerage Departments financial condition from the annual audit:

The Sewerage Department's operating revenue increased by approximately \$106,260 or 4.8 percent over last year while the operating expenses increased by approximately \$36,815 or 2.3 percent. **This resulted in an increase in net operating income of approximately \$69,445 over last year.** The increase in operating expenses is due to staff increases and chemical costs. Net non-operating revenue (expense) decreased by approximately \$38,643 from the prior year. The total change

SECTION 10 THE SELECTED PLAN

in net position increased by approximately \$108,088 or 18.6 percent over the prior year.

2. Required Revenue

a. KIA 20 Year Loan

The selected alternatives for the 0-2 year planning period include approximately \$12,500,000 worth of improvements. At an interest rate of 1.5 percent and a term of 20 years, the annual impact to user rates would require approximately \$ 643,320 in revenue to cover the loan payment and the 0.2 percent loan servicing fee. Adding the 10 percent debt service coverage brings the total annual revenue requirement to \$707,652. However, in 2024 the current 2003 KIA Fund A loan will be paid off, freeing up \$661,211 in principal and interest payments reducing the increased revenue requirement to \$46,441 or 2 percent of sewer revenues. As indicated by the KIA Executive Summary, it is not anticipated that a rate increase will be necessary as long as revenue and expenses remain steady.

b. KIA 30 Year Loan

KIA Fund A loans with a 30-year term are only available to communities with an MHI that 80 percent of the Kentucky MHI of \$46,535. Mount Sterling has an MHI of \$41,108, therefore a 30-year term is not available for these projects.

3. Required User Rates

- a. As indicated previously, it is not anticipated that a rate increase will be required for the construction of this project.

SECTION 10
THE SELECTED PLAN

H. Implementation Schedule

TABLE 10-3
PRELIMINARY IMPLEMENTATION SCHEDULE

TASK	DUE DATE
Submit Draft to KYDOW for Comment	July 2020
Public Hearing	August 2020
Approval of Facilities Plan by MSWSS	July 2020
Submit Final Plan to KYDOW for Approval	July 2020
Approval of Plan by KYDOW	August 2020
Preliminary Design of Improvements	June–August 2020
Final Design of Improvements	August–November 2020
Submit Plans to KYDOW	December 2020
Approval of Design by KYDOW	January 2021
Advertisement for Bids for Improvements	March 2021
Receive Bids	April 2021
Award Construction	May 2021
Construction	June 2021–June 2022

SECTION 11

DOCUMENTATION OF PUBLIC PARTICIPATION

A. City and Utility Involvement

The Mayor of the City of Mount Sterling along with community leaders are members of the Mount Sterling Water and Sewer (MSWSS). The MSWSS is in support of this facilities plan and the selected alternatives. The City of Mount Sterling and MSWSS will work together to ensure that public participation is included in the final development of this plan. Workshops were conducted with MSWSS staff to help with the development of the alternatives outlined in the facilities plan and they have been involved in the development of all aspects of the plan. Meetings were held on a monthly basis to ensure that operations staff and management were informed of the alternatives considered and the selected alternatives for capital improvements.

B. Regulatory Involvement

Cross-Cutter letters have been sent to various agencies that may have input on the proposed improvements. Agencies contacted include the State Historic Preservation Office, U.S. Natural Resources and Conservation Service, U.S. Fish and Wildlife, Kentucky Fish and Wildlife, U.S. Army Corp of Engineers. In addition, the Madison County Health Department along with other local agencies was contacted to inform them of the proposed projects. Responses from each of the agencies will be included in the final draft of this document.

C. Public Meeting

A public meeting was scheduled for _____, 2020. The meeting was held at the _____. A notice of the public meeting was published in the local newspaper with the largest circulation on _____, 2020. Exhibit 11-1 includes a copy of the newspaper affidavit, the presentation, the agenda, the sign-in sheet and public comments.

Section 12

Regional Facilities Plan Preparation

SECTION 12

REGIONAL FACILITIES PLAN PREPARATION CHECKLIST

EXHIBIT 12-1 HINKSTON CREEK WWTP EXPANSION PROCESS UNIT DESIGN CRITERIA

Regional Facility Plan Guidance | 2011

4.	If available, a local planning and zoning land use map.	Exh. 3-5
SECTION 4		
SOCIOECONOMIC CHARACTERISTICS OF THE PLANNING AREA- The following characteristics of the planning area shall be discussed:		
1.	Historical, current, and projected population in the planning area including wastewater contributions from industrial and commercial sources.	4-4, 5, & 9
2.	Current and projected population in the existing service area and unsewered parts of the planning area	4-4, 5, & 9
3.	Economic or social benefit to the affected community	4-10
SECTION 5		
EXISTING ENVIRONMENT IN THE PLANNING AREA- Describe existing physical, biological, cultural, and other resource features within the planning area with an emphasis on those that may be impacted by the proposed plan or projects, including the following:		
1.	Physical features such as surface and groundwater quality, water sources and supply, wetlands, lakes, streams, air pollution, floodplains, soils, geology, and topography	5-1 thru 5-9
2.	Biological: Identify plant and animal communities in the planning area with an emphasis upon endangered and threatened species likely to be impacted	5-7 thru 5-8
3.	Cultural: Describe archaeological and historical resources that may be affected by the proposed project	5-8
4.	Other Resource Features such as national and state parks, recreational areas, USDA Designated Important Farmland, and any other applicable environmentally sensitive areas	5-9 thru 10
SECTION 6		
EXISTING WASTEWATER SYSTEM- This section shall be prepared by a Professional Engineer licensed in Kentucky. A description of the existing facilities within the planning area shall include the following:		
1.	On-site systems in the planning area	6-2, Exh. 6-1
2.	Physical condition of the existing wastewater treatment plant(s) including the type, age, design capacity, process units, peak and average wastewater flows, current discharge permit limits, schematic layout of treatment plant. Include a narrative description of the capacity of the treatment plant to meet reliability and redundancy requirements as outlined in regulation 401 KAR 5:005, Section 13.	6-4 thru 6-13, Exh. 6-2
3.	Existing collection and conveyance system and its condition	6-1 thru 6-3
4.	Existing biosolids disposal method	6-10 thru 6-13
* 5.	Existing operation, maintenance and compliance issues	6-4 & 6-12
SECTION 7		
FORECASTS OF FLOWS AND WASTE LOADS IN THE PLANNING AREA- This section shall be prepared by a professional engineer licensed in Kentucky and shall include:		
1.	Current and projected commercial, industrial and residential growth for the proposed planning period	7-4 thru 7-12
2.	A copy of the waste load allocation (WLA) issued by the DOW for new or expanded treatment plant projects	7-13

SECTION 12

REGIONAL FACILITIES PLAN PREPARATION CHECKLIST

Regional Facility Plan Guidance | 2011

SECTION 8		
EVALUATION OF ALTERNATIVES- This section shall be prepared by a professional engineer licensed in Kentucky and include an assessment of alternatives to determine the appropriate facilities that will meet the wastewater needs of the planning area and provide benefits that are cost-effective and environmentally sound. The section shall include:		
1.	No-action alternative	8-7
2.	Optimization of existing facilities	8-5
3.	Regionalization	8-7
4.	Other alternatives	8-5 thru 8-20
5.	Detailed cost analysis along with 20 year present worth analysis for each alternative	8-7
6.	Recommended alternative	8-11
SECTION 9		
CROSS-CUTTER CORRESPONDENCE AND MITIGATION- Each facility plan shall include cross-cutter correspondences to and from each agency related to the following four environmental and cultural concerns:		
1.	Threatened and Endangered Species: The U.S. Fish and Wildlife Service- Kentucky Ecological Services Field Station and the Kentucky Department of Fish and Wildlife Resources	TBD
2.	Historical Resources: The Kentucky Heritage Council State Historic Preservation Office	TBD
3.	Aquatic Resources: The US. Army Corps of Engineers (Louisville, Nashville, or Huntington Districts).	TBD
4.	Agricultural Resources: The local office of the Natural Resources Conservation Service (NRCS) or USDA Service Center	TBD
SECTION 10		
EVALUATION OF RECOMMENDED REGIONAL FACILITY PLAN- This section of the facility plan shall summarize the critical components of the recommended plan.		
1.	Environmental impacts	10-3
2.	Institutional structure	10-3
3.	Funding plan	10-4
4.	Current and projected residential user charge rate based on 4,000 gallon usage per month	10-7, 9, & 10
5.	Implementation schedule	10-11
SECTION 11		
DOCUMENTATION OF PUBLIC PARTICIPATION- The section shall include a copy of the newspaper advertisement/proof of publication, attendance sheet, and public comments.		TBD

SECTION 12
REGIONAL FACILITIES PLAN PREPARATION CHECKLIST

EXHIBIT 12-2
HINKSTON CREEK WWTP EXPANSION
UNIT PROCESS DESIGN CRITERIA FORM

UNIT PROCESS	NUMBER OF UNITS	FLOW PER UNIT (MGD)	DESIGN CRITERIA
Influent Pumping	6 Pumps	3 mgd (Each)	Pump 16.0 mgd Peak Flow
Rotomat Basket Screens	3 Screens	9 mgd (Each)	Screen 16.0 mgd Peak Flow
Enhanced Biological Nutrient Removal (EBNR)	3 Basins	2 mgd (Each)	Treat 6.0 mgd Average Flow Treat 16.0 mgd Peak Flow
Chemical Phosphorus Removal (Aluminum Sulfate)	2 Pumps	3 gph (Each)	Treat 6.0 mgd Average Flow Treat 16.0 mgd Peak Flow
Final Clarification	3 Clarifiers	3 mgd (Each)	Treat 6.0 mgd Average Flow Treat 16.0 mgd Peak Flow
Disinfection	2 Units	16 mgd (Each)	Treat 6.0 mgd Average Flow Treat 16.0 mgd Peak Flow
RAS Pumping	4 Units	2 mgd (Each)	Pump 8.0 mgd RAS
WAS Pumping	2 Units	0.5 mgd (Each)	Pump 1.0 mgd WAS
Belt Filter Press (2 Meter)	2 Units	N/A	600 lbs/hr/meter

SECTION 12
REGIONAL FACILITIES PLAN PREPARATION CHECKLIST

EXHIBIT 12-3
HINKSTON CREEK WWTP EXPANSION
UNIT PROCESS DESIGN CRITERIA FORM

DESIGN FLOWS & ORGANIC CONCENTRATIONS	FLOWS (MGD)	BOD ₅ (MG/L)	BOD ₅ (LB/DAY)	SS (MG/L)	SS (LB/DAY)	NH ₃ -N (MG/L)	NH ₃ -N (MG/L)	TKN (MG/L)	TKN (LB/DAY)	P (MG/L)	P (LB/DAY)
Average Daily											
Domestic Portion	3.531	300	8,835	400	11,779	25	736	45	1,325	10	294
Industrial Portion	2.469	300	6,177	400	8,237	25	515	45	927	10	206
Total	6.000	300	15,012	400	20,016	25	1,251	45	2,252	10	500
Population Equivalent	0.060										
Peak Hourly											
Domestic Portion	9.416	113	8,835	150	11,779	9.4	736	16.9	1,325	3.7	294
Industrial Portion	6.584	113	6,177	150	8,237	9.4	515	16.9	927	3.7	206
Total	16.0	113	15,012	150	20,016	9.4	1,251	16.9	2,252	3.7	500
Peak Daily	16.0										
Peak Instantaneous	16.0										

Appendix A – CMOM Self-Assessment Checklist

**Capacity, Management, Operation and
Maintenance (CMOM)**

**Self-Assessment Checklist
FOR**

**Mount Sterling Water & Sewer System
(MSWSS)**

Mt. Sterling, Kentucky

April 2019

CHAPTER 3. CHECKLIST FOR CONDUCTING EVALUATIONS OF WASTEWATER COLLECTION SYSTEM CAPACITY, MANAGEMENT, OPERATION, AND MAINTENANCE (CMOM) PROGRAMS

The following is a comprehensive checklist available for use in the review process. The checklist consists of a series of questions organized by major categories and sub-categories. The major category is followed by a brief statement describing the category. Following the sub-category is a brief clarifying statement. References are then given.

Questions are provided in a table format that includes the question, response, and documentation available.

Response is completed by using information and data acquired from the data and information request, onsite interviews, and site reviews. An alternative to this process is to transmit the entire checklist to the collection system owner or operator to complete and return electronically.

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I. General Information - Collection System Description

Question	Response	Documentation Available	
		Yes	No
Size of service area (acres).			
Population of service area.			
Number of pump stations.			
Feet (or miles) of sewer.			
Age of system (e.g., 30% over 30 years, 20% over 50 years, etc.).			

Comments:

II. Continuing Sewer Assessment Plan

Question	Response	Documentation Available	
		Yes	No
Does the collection system experience problems related to I/I? How do these problems manifest themselves? (Manhole overflows, basement flooding, structure, SSOs)			
How does the owner or operator prioritize investigation, repairs and rehabilitation related to I/I?			
What methods are considered to remedy hydraulic deficiencies?			
Does the plan include a schedule for investigative activities?			
Is the plan regularly updated?			

Comments:

III. A. Collection System Management: Organizational Structure

Question	Response	Documentation Available	
		Yes	No
Is an organizational chart available that shows the overall personnel structure for the collection system, including operation and maintenance staff?			
Are there organizational charts that show functional groups and classifications?			
Are up to date job descriptions available that delineate responsibilities and authority for each position?			
Are the following items discussed in the job descriptions: <input type="checkbox"/> nature of work to be performed, <input type="checkbox"/> minimum requirements for the position, <input type="checkbox"/> necessary special qualifications or certifications, <input type="checkbox"/> examples of the types of work, <input type="checkbox"/> list of licences required for the position, <input type="checkbox"/> performance measures or promotional potential?			
Does the organizational chart indicate how many positions are budgeted as opposed to actually filled?			
On average, how long do positions remain vacant?			
Are collection system staff responsible for any other duties, (e.g., road repair or maintenance, O&M of the storm water collection system)?			

Comments:

III. B. Collection System Management: Training

Question	Response	Documentation Available	
		Yes	No
Is there a documented formal training program?			
Does the training program address the fundamental mission, goals, and policies of the collection system owner or operator?			
Does the owner or operator provide training in the following areas: <input type="checkbox"/> safety, <input type="checkbox"/> routine line maintenance, <input type="checkbox"/> confined space entry, <input type="checkbox"/> traffic control, <input type="checkbox"/> record keeping, <input type="checkbox"/> electrical and instrumentation, <input type="checkbox"/> pipe repair, <input type="checkbox"/> bursting CIPP, <input type="checkbox"/> public relations, <input type="checkbox"/> SSO/emergency response, <input type="checkbox"/> pump station operations and maintenance, <input type="checkbox"/> CCTV and trench/shoring, <input type="checkbox"/> other?			
Which of these programs have formal curriculums?			
Does On-the-Job (OJT) training use Standard Operating and Standard Maintenance Procedures (SOPs & SMPs)?			
Is OJT progress and performance measured?			
Does the owner or operator have mandatory training requirements identified for key employees?			
What percentage of employees met or exceeded their annual training goals during the past year?			
Which of the following methods are used to assess the effectiveness of the training: <input type="checkbox"/> periodic testing, <input type="checkbox"/> drills, <input type="checkbox"/> demonstration, <input type="checkbox"/> none?			
What percentage of the training offered by the owner or operator is in the form of the following: manufacturer training, on-the-job training, in-house classroom training, industry-wide training?			

Comments:

III. C. Collection System Management: Communication and Customer Service

Question	Response	Documentation Available	
		Yes	No
What type of public education/outreach programs does the owner or operator have about user rates?			
Do these programs include communication with groups such as local governments, community groups, the media, schools, youth organizations, senior citizens? List applicable groups.			
Is there a public relations program in place?			
Are the employees of the collection system trained in public relations?			
Are there sample correspondence or “scripts” to help guide staff through written or oral responses to customers?			
What methods are used to notify the public of major construction or maintenance work: <input type="checkbox"/> door hangers, <input type="checkbox"/> newspaper, <input type="checkbox"/> fliers, <input type="checkbox"/> signs, <input type="checkbox"/> other, <input type="checkbox"/> none?			
Is the homeowner notified prior to construction that his/her property may be affected?			
Is information provided to residents on cleanup procedures following basement backups and overflows from manholes when they occur?			
Which of the following methods are used to communicate with system staff: <input type="checkbox"/> regular meetings, <input type="checkbox"/> bulletin boards, <input type="checkbox"/> e-mail, <input type="checkbox"/> other?			
How often are staff meetings held (e.g., daily, weekly, monthly)?			
Are incentives offered to employees for performance improvements?			
Does the owner or operator have an “Employee of the Month/Quarter/Year” program?			

Question	Response	Documentation Available	
		Yes	No
How often are performance reviews conducted (e.g., semi-annually, annually, etc.)?			
Does the owner or operator regularly communicate with other municipal departments?			
Does the owner or operator have a formal procedure in place to evaluate and respond to complaints?			
What are the common complaints received?			
Does the owner or operator have a process for customer evaluation of the services provided?			
Do customer service records include the following information: <input type="checkbox"/> personnel who received the complaint or request, <input type="checkbox"/> nature of complaint or request, <input type="checkbox"/> to whom the follow-up action was assigned, <input type="checkbox"/> date of the complaint or request, <input type="checkbox"/> date the complaint or request was resolved, <input type="checkbox"/> customer contact information, <input type="checkbox"/> location of the problem, <input type="checkbox"/> date the follow-up action was assigned, <input type="checkbox"/> cause of the problem, <input type="checkbox"/> feedback to customer?			
Does the owner or operator have a goal for how quickly customer complaints (or emergency calls) are resolved?			
What percentage of customer complaints (or emergency calls) are resolved within the timeline goals?			
How are complaint records maintained? (i.e., computerized) Is this information used as the basis for other activities such as routine preventative maintenance?			

Comments:

III. D. Collection System Management: Management Information Systems

Question	Response	Documentation Available	
		Yes	No
What types of work reports are prepared by the O&M Staff?			
Do the work reports include enough information? (See example report forms)			
How are records kept?			
Are records maintained for a period of at least three years?			
Are the records able to distinguish activities taken in response to an overflow event?			
Does the owner or operator use computer technology for its management information system? (Computer Based Maintenance Management Systems, spreadsheets, data bases, SCADA, etc). If so, what type of system(s) is used?			
Are there written instructions for managing and tracking the following information: <input type="checkbox"/> complaint work orders, <input type="checkbox"/> scheduled work orders, <input type="checkbox"/> customer service, <input type="checkbox"/> scheduled preventative maintenance, <input type="checkbox"/> scheduled inspections, <input type="checkbox"/> sewer system inventory, <input type="checkbox"/> safety incidents, <input type="checkbox"/> scheduled monitoring/sampling, <input type="checkbox"/> compliance/overflow tracking, <input type="checkbox"/> equipment/tools tracking, <input type="checkbox"/> parts inventory?			
Do the written instructions for tracking procedures include the following information: <input type="checkbox"/> accessing data and information, <input type="checkbox"/> instructions for using the tracking system, <input type="checkbox"/> updating the MIS, <input type="checkbox"/> developing and printing reports?			
How often is the management information system updated (immediately, within one week of the incident, monthly as time permits)?			

Comments:

III. E. Collection System Management: SSO Notification Program

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have standard procedures for notifying state agencies, health agencies, the regulatory authority, and the drinking water purveyor of overflow events?			
Are above notification procedures dependent on the size or location of the overflow? If so, describe this procedure.			
Is there a Standard form for recording overflow events? Does it include location, type, receiving water, estimated volume, cause?			
Are chronic SSO locations posted?			

Comments:

III. F. Collection System Management: Legal Authority

Question	Response	Documentation Available	
		Yes	No
Does the collection system receive flow from satellite communities?			
What is the total area from satellite communities that contribute flow to the collection system (acres or square miles)?			
Does the owner or operator require satellite communities to enter into an agreement?			
Does the agreement include the requirements listed in the sewer use ordinance (SUO)?			
Do the agreements have a date of termination and allow for renewal under different terms?			
Does the owner or operator maintain the legal authority to control the maximum flow introduced into the collection system from satellite communities?			
Are standards, inspections, and approval for new connections clearly documented in a SUO?			
Does the SUO require satellite communities to adopt the same industrial and commercial regulator discharge limits as the owner or operator?			
Does the SUO require satellite communities to adopt the same inspection and sampling schedules as required by the pretreatment ordinance?			
Does the SUO require the satellite communities or the owner or operator to issue control permits for significant industrial users?			
Does the SUO contain provisions for addressing overstrength wastewater from satellite communities?			
Does the SUO contain procedures for the following: inspection standards, pretreatment requirements, building/sewer permit issues?			

Does the SUO contain general prohibitions of the following materials: <input type="checkbox"/> fire and explosion hazards, <input type="checkbox"/> oils or petroleum, <input type="checkbox"/> corrosive materials, <input type="checkbox"/> materials which may cause interference at the wastewater treatment plant, <input type="checkbox"/> obstructive materials?			
Does the SUO contain procedures and enforcement actions for the following: <input type="checkbox"/> fats, oils, and grease (FOG); <input type="checkbox"/> I/I; building structures over the sewer lines; <input type="checkbox"/> storm water connections to sanitary lines; <input type="checkbox"/> defects in service laterals located on private property; <input type="checkbox"/> sump pumps, air conditioner?			

Comments:

IV. A. Collection System Operation: Budgeting

Question	Response	Documentation Available	
		Yes	No
What are the owner or operator's current rates?			
What is the average annual fee for residential users?			
How are user rates calculated?			
How often are user charges evaluated and adjusted based on that evaluation?			
How many rate changes have there been in the last 10 years and what were they?			
Does the owner or operator receive sufficient funding from its revenues?			
Are collection system enterprise funds used for non-enterprise fund activities?			
Is there a budget for annual operating costs?			
Does the budget provide sufficient line item detail for labor, materials and equipment?			
Are costs for collection system O&M separated from other utility services, i.e., water, storm water and treatment plants?			
Do O&M managers have current O&M budget data?			
What is the collection system's average annual O&M budget?			
What percentage of the collection system's overall budget is allocated to maintenance of the collection system?			
Does the owner or operator have a Capital Improvement Plan (CIP) that provides for system repair/replacement on a prioritized basis?			
What is the collection system's average annual CIP budget?			

Question	Response	Documentation Available	
		Yes	No
What percentage of the maintenance budget is allotted to the following maintenance: Predictive maintenance (tracking design, life span, and scheduled parts replacement), preventative maintenance (identifying and fixing system weakness which, if left unaddressed, could lead to overflows), corrective maintenance (fixing system components that are functioning but not at 100% capacity/efficiency), emergency maintenance (reactive maintenance, overflows, equipment breakdowns).			
Does the owner or operator have a budgeted program for the replacement of under-capacity pipes?			
Does the owner or operator have a budgeted program for the replacement of over-capacity pipes?			
Are O&M staff involved in O&M budget preparation?			
How are priorities determined for budgeting for O&M during the budget process?			
Does the owner or operator maintain a fund for future equipment and infrastructure replacement?			
How is new work typically financed?			

Comments:

IV. B. Collection System Operation: Compliance

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have inter-jurisdictional or inter-municipal agreements?	No.		
Is there a sewer-use and a grease ordinance?			
Is there a process in place for enforcing sewer and grease ordinances?			
Are all grease traps inspected regularly?			
How does the owner or operator learn of new or existing unknown grease traps?			
Who is responsible for enforcing the sewer ordinance and grease ordinance? Does this party communicate with the utility department on a regular basis?			
Are there any significant industrial dischargers to the system?			
Is there a pretreatment program in place? If so, please describe.			
Is there an ordinance dealing with private service laterals?			
Is there an ordinance dealing with storm water connections or requirements to remove storm water connections?			

Comments:

IV. C. Collection System Operation: Water Quality Monitoring

Question	Response	Documentation Available	
		Yes	No
Is there a water quality monitoring program in the service areas?			
If so, who performs the monitoring?			
How many locations are monitored?			
What parameters are monitored and how often?			
Is water quality monitored after an SSO event?			
Are there written standard sampling procedures available?			
Is analysis performed in-house or by a contract laboratory?			
Are chain-of-custody forms used?			

Comments:

IV. D. Collection System Operation: Hydrogen Sulfide Monitoring and Control

Question	Response	Documentation Available	
		Yes	No
Are odors a frequent source of complaints? How many?			
Are the locations of the frequent odor complaints documented?			
What is the typical sewer slope? Does the owner or operator take hydrogen sulfide corrosion into consideration when designing sewers?			
Does the collection system owner or operator have a hydrogen sulfide problem, and if so, does it have in place corrosion control programs? What are the major elements of the program?			
Does the owner or operator have written procedures for the application of chemical dosages?			
Are chemical dosages, dates, and locations documented?			
Does the owner or operator have a program in place for renewing or replacing severely corroded sewer lines to prevent collapse?			
Are the following methods used for hydrogen sulfide control: <input type="checkbox"/> aeration, <input type="checkbox"/> iron salts, <input type="checkbox"/> enzymes, <input type="checkbox"/> activated charcoal canisters, <input type="checkbox"/> chlorine, <input type="checkbox"/> sodium hydroxide, <input type="checkbox"/> hydrogen peroxide, <input type="checkbox"/> potassium permanganate, <input type="checkbox"/> biofiltration, <input type="checkbox"/> others?			
Does the system contain air relief valves at the high points of the force main system?			
How often are the valves maintained and inspected (weekly, monthly, etc.)?			
Does the owner or operator enforce pretreatment requirements?			

Comments:

IV. E. Collection System Operation: Safety

Question	Response	Documentation Available	
		Yes	No
Is there a documented safety program supported by the top administration official?			
Is there a Safety Department that provides training, equipment, and an evaluation of procedures?			
If not, who provides safety training?			
Does the owner or operator have written procedures for the following: <input type="checkbox"/> lockout/tagout, <input type="checkbox"/> MSDS, <input type="checkbox"/> chemical handling, <input type="checkbox"/> confined spaces permit program, <input type="checkbox"/> trenching and excavations, <input type="checkbox"/> biological hazards in wastewater, <input type="checkbox"/> traffic control and work site safety, <input type="checkbox"/> electrical and mechanical systems, <input type="checkbox"/> pneumatic and hydraulic systems safety?			
What is the agency's lost-time injury rate(percent or in hours)?			
Is there a permit required confined space entry procedure for manholes, wetwells, etc.? Are confined spaces clearly marked?			
Are the following equipment items available and in adequate supply: <input type="checkbox"/> rubber/disposable gloves; <input type="checkbox"/> confined space ventilation equipment; <input type="checkbox"/> hard hats, <input type="checkbox"/> safety glasses, <input type="checkbox"/> rubber boots; <input type="checkbox"/> antibacterial soap and first aid kit; <input type="checkbox"/> tripods or non-entry rescue equipment; <input type="checkbox"/> fire extinguishers; <input type="checkbox"/> equipment to enter manholes; <input type="checkbox"/> portable crane/hoist; <input type="checkbox"/> atmospheric testing equipment and gas detectors; <input type="checkbox"/> oxygen sensors; <input type="checkbox"/> H ₂ S monitors; <input type="checkbox"/> full body harness; <input type="checkbox"/> protective clothing; <input type="checkbox"/> traffic/public access control equipment; <input type="checkbox"/> 5-minute escape breathing devices; <input type="checkbox"/> life preservers for lagoons; <input type="checkbox"/> safety buoy at activated sludge plants; <input type="checkbox"/> fiberglass or wooden ladders for electrical work; <input type="checkbox"/> respirators and/or self-contained breathing apparatus; <input type="checkbox"/> methane gas or OVA analyzer; <input type="checkbox"/> LEL metering?			
Are safety monitors clearly identified?			
How often are safety procedures reviewed and revised?			

Question	Response	Documentation Available	
		Yes	No
Are workplace accidents investigated?			
How does the Administration communicate with field personnel on safety procedures; memo, direct communication, video, etc.?			
Is there a Safety Committee with participation by O&M staff? How often does it meet?			
Is there a formal Safety Training Program? Are records of training maintained?			

Comments:

IV. F. Collection System Operation: Emergency Preparedness and Response

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have an emergency response plan? A contingency plan?		X	
How often is the plan reviewed and updated? What was the date it was last updated?		X	
Does the plan take into consideration vulnerable points in the system, severe natural events, failure of critical system components, vandalism or other third party events, and a root cause analysis protocol?		X	
Are staff trained and drilled to respond to emergency situations? Are responsibilities detailed for all personnel who respond to emergencies?		X	
Are there emergency operation procedures for equipment and processes?			X
Does the owner or operator have standard procedures for notifying state agencies, local health departments, the regulatory authority, and drinking water authorities of significant overflow events?			X
Does the procedure include an up-to-date list of the names, titles, phone numbers, and responsibilities of all personnel involved?			X
Do work crews have immediate access to tools and equipment during emergencies?			X
Is there a public notification plan? If so, does it cover both regular business hours and off-hours?			X
Does the owner or operator have procedures to limit public access to and contact with areas affected with SSOs?			X
Does the owner or operator use containment techniques to protect the storm drainage systems?			X

Do the overflow records include the following information: <input type="checkbox"/> date and time, <input type="checkbox"/> cause(s), <input type="checkbox"/> names of affected receiving water(s), <input type="checkbox"/> location, <input type="checkbox"/> how it was stopped, <input type="checkbox"/> any remediation efforts, <input type="checkbox"/> estimated flow/volume discharged, <input type="checkbox"/> duration of overflow?		X	
Does the owner or operator have signage to keep public from affected area?		X	
Is there a hazard classification system? Where is it located?			X
Does the owner or operator conduct vulnerability analyses?			X
Are risk assessments performed? How often?			X

Comments:

IV. G. Collection System Operation: Modeling

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have a hydraulic model of the collection system including pump stations? What model is used?			X
What uses does the model serve (predicting flow capacity, peak flows, force main pressures, etc.)?			X
Does the model produce results consistent with observed conditions?			X
Is the model kept up to date with respect to new construction and repairs that may affect hydraulic capacity?			X

Comments:

IV. H. Collection System Operation: Engineering - System Mapping and As-built Plans (Record Drawings)

Question	Response	Documentation Available	
		Yes	No
What type of mapping/inventory system is used?		X	
Is the mapping tied to a GPS system?		X	
Are “as-built” plans (record drawings) or maps available for use by field crews in the office and in the field?		X	
Do field crews record changes or inaccuracies and is there a process in place to update “as built” plans (record drawings)?		X	
Do the maps show the date the map was drafted and the date of the last revision?		X	
Do the sewer line maps include the following: <input type="checkbox"/> scale; <input type="checkbox"/> north arrow; <input type="checkbox"/> date the map was drafted; <input type="checkbox"/> date of the last revision; <input type="checkbox"/> service area boundaries; <input type="checkbox"/> property lines; <input type="checkbox"/> other landmarks; <input type="checkbox"/> manhole and other access points; <input type="checkbox"/> location of building laterals; <input type="checkbox"/> street names; <input type="checkbox"/> SSOs/CSOs; <input type="checkbox"/> flow monitors; <input type="checkbox"/> force mains; <input type="checkbox"/> pump stations; <input type="checkbox"/> lined sewers; <input type="checkbox"/> main, trunk, and interceptor sewers; <input type="checkbox"/> easement lines and dimensions; <input type="checkbox"/> pipe material; <input type="checkbox"/> pipe diameter; <input type="checkbox"/> pipe diameter; <input type="checkbox"/> installation date; <input type="checkbox"/> slope; <input type="checkbox"/> manhole rim elevation; <input type="checkbox"/> manhole coordinates; <input type="checkbox"/> manhole invert elevation; <input type="checkbox"/> distance between manholes?		X	
Are the following sewer attributes recorded: <input type="checkbox"/> size, <input type="checkbox"/> shape, <input type="checkbox"/> invert elevation, <input type="checkbox"/> material, <input type="checkbox"/> separate/combined sewer, <input type="checkbox"/> installation date?		X	
Are the following manhole attributes recorded: <input type="checkbox"/> shape, <input type="checkbox"/> type, <input type="checkbox"/> depth, <input type="checkbox"/> age, <input type="checkbox"/> material?		X	
Is there a systematic numbering and identification method/system established to identify sewer system manhole, sewer lines, and other items (pump stations, etc.)?		X	

Comments:

IV. I. Collection System Operation: Engineering - Design

Question	Response	Documentation Available	
		Yes	No
Is there a document which details design criteria and standard construction details?		X	
Is life cycle cost analysis performed as part of the design process?			X
Is there a document that describes the procedures that the owner or operator follows in conducting design review? Are there any standard forms that are used as a guide?		X	
Are O&M staff involved in the design review process?		X	
Does the owner or operator have documentation on private service lateral design and inspection standards?		X	
Does the owner or operator attempt to standardize equipment and sewer system components?		X	

Comments:

IV. J. Collection System Operation: Engineering - Capacity

Question	Response	Documentation Available	
		Yes	No
What procedures are used in determining whether the capacity of existing gravity sewer system, pump stations and force mains are adequate for new connections?		X	
Is any metering of flow performed prior to allowing new connections?		X	
Is there a hydraulic model of the system used to predict the effects of new connections?			X
Is there any certification as to the adequacy of the sewer system to carry additional flow from new connections required?			X

Comments:

IV. K. Collection System Operation: Engineering - Construction

Question	Response	Documentation Available	
		Yes	No
Who constructs new sewers? If other than the owner or operator, does the owner or operator review and approve the design?		X	
Is there a document that describes the procedures that the owner or operator follows in conducting their construction inspection and testing program?		X	
Are there any standard forms that guide the owner or operator in conducting their construction inspection and testing program?		X	
Is new construction inspected by the owner or operator or others?		X	
What are the qualifications of the inspector(s)?		X	
What percentage of time is a construction inspector on site?		X	
Is inspection supervision provided by a registered professional engineer?		X	
How is the new gravity sewer construction tested? (Air, water, weirs, etc.)		X	
Are new manholes tested for inflow and infiltration?			X
Are new gravity sewers televised?		X	
What tests are performed on pump stations?		X	
What tests are performed on force mains?		X	
Is new construction built to standard specifications established by the owner or operator and/or the State?		X	
Is there a warranty for new construction? If so, is there a warranty inspection done at the end of this period?		X	

Comments:

IV. L. Collection System Operation: Pump Station Operation

Question	Response	Documentation Available	
		Yes	No
How many pump stations are in the system? How many have backup power sources?		X	
Are enough trained personnel assigned to properly maintain pump stations?		X	
Are these personnel assigned full-time or part-time to pump station duties?		X	
Are there manned and un-manned pump stations in the system? How many of each?			X
Is there a procedure for manipulating pump operations (manually or automatically during wet weather to increase in-line storage of wet weather flows?			X
Are well-operating levels set to limit pump start/stops?		X	
Are the lead, lag, and backup pumps rotated regularly?			X

Comments:

IV. L. 1. Collection System Operation: Pump Stations - Inspection

Question	Response	Documentation Available	
		Yes	No
How often are pump stations inspected?		X	
What work is accomplished during inspections?		X	
Is there a checklist?		X	
Are records maintained for each inspection?		X	
What are the average annual labor hours spent on pump station inspections?		X	
Are there Standard Operating Procedures (SOPs) and Standard Maintenance Procedures (SMPs) for each station?		X	
What are the critical operating characteristics maintained for each station? Are the stations maintained within these criteria?		X	

Comments:

IV. L. 2. Collection System Operation: Pump Stations - Emergencies

Question	Response	Documentation Available	
		Yes	No
Is there an Emergency Operating Procedure for each pump station?			X
Is there sufficient redundancy of equipment in all pump stations?		X	
Who responds to lift station failures and overflows? How are they notified?		X	
How is loss of power at a station dealt with? (i.e. on-site electrical generators, alternate power source, portable electric generator(s))		X	
What equipment is available for pump station bypass?		X	
What process is used to investigate the cause of pump station failure and take necessary action to prevent future failures?		X	

Comments:

IV. L. 3. Collection System Operation: Pump Stations - Emergency Response and Monitoring

Question	Response	Documentation Available	
		Yes	No
How are lift stations monitored?		X	
If a SCADA system is used, what parameters are monitored?			X

Comments:

IV. L. 4. Collection System Operation: Pump Stations - Recordkeeping

Question	Response	Documentation Available	
		Yes	No
Are operations logs maintained for all pump stations?		X	
Are manufacturer's specifications and equipment manuals available for all equipment?		X	
Are pump run times maintained for all pumps?		X	
Are elapsed time meters used to assess performance?		X	

Comments:

IV. L. 5. Collection System Operation: Pump Stations - Force Mains and Air/Vacuum Valves

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator regularly inspect the route of force mains?			X
Does the owner or operator have a program to regularly assess force main condition?			X
Is there a process in place to investigate the cause of force main failures?			X
Does the owner or operator have a regular maintenance/inspection program for air/vacuum valves?			X
Have force main failures been caused by water hammer?			X

Comments:

V. A. Equipment and Collection System Maintenance: Maintenance Budgeting

Question	Response	Documentation Available	
		Yes	No
How does the collection system owner or operator track yearly maintenance costs?		X	
Is there a maintenance cost control system?		X	
Are maintenance costs developed from past cost records?		X	
How does the owner or operator categorize costs? Preventive? Corrective? Projected Costs? Projected Repair?		X	
How does the owner or operator control expenditures?		X	

Comments:

V. B. Equipment and Collection System Maintenance: Planned Maintenance

Question	Response	Documentation Available	
		Yes	No
Are preventive maintenance tasks and frequencies established for all pump stations and equipment?		X	
How were preventive maintenance frequencies established?		X	
What percentage of the operator's time is devoted to planned as opposed to unplanned maintenance?			X
What predictive maintenance techniques are used as part of PM program?		X	
Is there a formal procedure to repair or replace pump stations and equipment when useful life is reached?		X	
Has an energy audit been performed on pump station electrical usage?		X	
Is an adequate parts inventory maintained for all equipment?		X	
Is there a sufficient number of trained personnel to properly maintain all stations?		X	
Who performs mechanical and electrical maintenance?		X	
Are there Standard Maintenance Procedures (SMPs) for each station?		X	

Comments:

V. C. Equipment and Collection System Maintenance: Maintenance Scheduling

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator plan and schedule preventive and corrective maintenance activities?		X	
Is there an established priority system? Who sets priorities for maintenance?		X	
Is a maintenance card or record kept for each piece of mechanical equipment within the collection system?		X	
Do equipment maintenance records include the following information: <input type="checkbox"/> maintenance recommendations, <input type="checkbox"/> instructions on conducting the specific maintenance activity, <input type="checkbox"/> other observations on the equipment, <input type="checkbox"/> maintenance schedule, <input type="checkbox"/> a record of maintenance on the equipment to date.		X	
Are dated tags used to show out-of-service equipment?		X	
Is maintenance backlog tracked?		X	
How is O&M performance tracked and measured?		X	
What percent of repair finds are spent on emergency repairs?			X
Are corrective repair work orders backlogged more than six months?			X
Is maintenance performed for other public works divisions?			X
How are priorities determined for this work?			X
How is this work funded?		X	
Are maintenance logs maintained for all pump stations?		X	

Comments:

V. D. Equipment and Collection System Maintenance: Maintenance Right-of-Way

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator perform scheduled maintenance on Rights-of-Way and Easements?			X
Does the owner or operator monitor street paving projects?		X	
Does the owner or operator have a program to locate and raise manholes (air valves, etc) as needed?			X
How are priorities determined?			X
How is the effectiveness of the maintenance schedule measured?		X	

Comments:

V. E. Equipment and Collection System Maintenance: Sewer Cleaning

Question	Response	Documentation Available	
		Yes	No
Is there a routine schedule for cleaning sewer lines on a system wide basis, <i>e.g.</i> , at the rate of once every seven to twelve years or a rate of between 8% and 14% per year?		X	
What is the owner or operator's goals for annual system cleaning?		X	
What percent of the sewer lines are cleaned, even high/repeat cleaning trouble spots, during the past year?		X	
Is there a program to identify sewer line segments that have chronic problems and should be cleaned on a more frequent schedule?		X	
What is the average number of stoppages experienced per mile of sewer pipe per year?			
Has the number of stoppages increased, decreased, or stayed the same over the past five years?		X	
Are stoppages diagnosed to determine the cause?		X	
Are stoppages plotted on maps and correlated with other data such as pipe size and material, or location?		X	
Do the sewer cleaning records include the following information: <input type="checkbox"/> date and time, <input type="checkbox"/> cause of stoppage, <input type="checkbox"/> method of cleaning, location of stoppage or routine cleaning activity, <input type="checkbox"/> identity of cleaning crew, <input type="checkbox"/> further actions necessary/initiated?		X	
If sewer cleaning is done by a contractor are videos taken of before and after cleaning?			X

Comments:

V. E. 1. Equipment and Collection System Maintenance: Sewer Cleaning - Cleaning Equipment

Question	Response	Documentation Available	
		Yes	No
What type of cleaning equipment does the owner or operator use?		X	
How many cleaning units of each type does the owner or operator have? What is the age of each?		X	
How many cleaning crews and shifts does the owner or operator employ?			X
How many cleaning crews are dedicated to preventive maintenance cleaning?			X
How many cleaning crews are dedicated to corrective maintenance cleaning?			X
What has the owner or operator's experience been regarding pipe damage caused by mechanical equipment?		X	
Where is the equipment stationed?		X	

Comments:

V. E. 2. Equipment and Collection System Maintenance: Sewer Cleaning - Chemical Cleaning and Root Removal

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have a root control program?			X
Does the owner or operator have a FOG program?		X	
Are chemical cleaners used?			X
What types of chemical cleaners are used?			X
How often are they applied?			X
How are the chemical cleaners applied?			X
What results are achieved through the use of chemical cleaners?			X

Comments:

V. F. Equipment and Collection System Maintenance: Parts Inventory

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have a central location for the storage of spare parts?		X	
Have critical spare parts been identified?		X	
Are adequate supplies on hand to allow for two point repairs in any part of the system?		X	
Is there a parts standardization policy in place?			X
Does the owner or operator maintain a stock of spare parts on its maintenance vehicles?			X
What method(s) does the owner or operator employ to keep track of the location, usage, and ordering of spare parts? Are parts logged out when taken by maintenance personnel for use?			X
Does the owner or operator salvage specific equipment parts when equipment is placed out-of-service and not replaced?		X	
How often does the owner or operator conduct a check of the inventory of parts to ensure that their tracking system is working?		X	
Who has the responsibility of tracking the inventory?		X	
For those parts which are not kept in inventory, does the owner or operator have a readily available source or supplier?		X	

Comments:

V. G. Equipment and Collection System Maintenance: Equipment and Tools Management

Question	Response	Documentation Available	
		Yes	No
Is there a list of equipment and tools used for operation and maintenance?			X
Do personnel feel they have access to the necessary equipment and tools to do all aspects of operation and maintenance of the collection system?			X
Is there access to suitable equipment if the owner or operator's equipment is down for repair?			X
Does the owner or operator own or have access to portable generators?		X	
Where does the owner or operator store its equipment?		X	
Is a detailed equipment maintenance log kept?		X	
Are written equipment maintenance procedures available?		X	
What is the procedure for equipment replacement?		X	
Are the services of an in-house vehicle and equipment maintenance services used?		X	
What is the typical turnaround time for equipment and vehicle maintenance?			X

Comments:

VI. Management Information Systems: Performance Indicators

Question	Response	Documentation Available	
		Yes	No
How many sanitary sewer overflows (SSOs) have occurred in the last 5 years? How many less than 1,000 gallons?		X	
Does the owner or operator document and report all SSOs regardless of size?		X	
Does the owner or operator document basement backups?		X	
Are there areas that experience basement or street flooding?		X	
How many SSOs have reached "Waters of the US"? Is there a record?		X	
Approximately, what percent of SSOs discharge were from each of the following in the last 5 years: manholes, pump stations, main and trunk sewers, lateral and branch sewers, structural bypasses?		X	
What is the per capita wastewater flow for the maximum month and maximum week or day?		X	
What is average annual influent BOD?		X	
What is the ratio of maximum wet weather flow to average dry weather flow?		X	
Approximately, what percent of SSO discharge were caused by the following in the last 5 years: debris buildup, collapsed pipe, root intrusion, capacity limitations, excessive infiltration and inflow, FOG, vandalism?		X	
What percent of SSOs were released to: soil; surface water; basements; paved areas; coastal, ocean, or beach areas; rivers, lakes or streams?		X	
For surface water releases, what percent are to surface waters that could affect: contact recreation, shellfish growing areas, drinking water sources?			
How many chronic SSO locations are in the collection system?		X	

Are pipes with chronic SSOs being monitored for sufficient capacity and/or structural condition?		X	
Prior to collapse, are structurally deteriorating pipelines being monitored for renewal or replacement?			X
What is the annual number of mainline sewer cave-ins? What was the cause (i.e. pipe corrosion, leaks, etc.)		X	
What other types of performance indicators does the owner or operator use?		X	

Comments:

VII. A. Sewer System Capacity Evaluation (SSES): Internal TV Inspection

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator use internal T.V. inspection? If so please describe the program.		X	
Do the internal TV record logs include the following: <input type="checkbox"/> pipe size, type, length, and joint spacing; <input type="checkbox"/> distance recorded by internal TV; <input type="checkbox"/> results of the internal TV inspection; <input type="checkbox"/> internal TV operator name; <input type="checkbox"/> cleanliness of the line; <input type="checkbox"/> location and identification of line being televised by manholes?		X	
Is a rating system used to determine the severity of the defects found during the inspection process?			X
Is there documentation explaining the codes used for internal TV results reporting?			X
Approximately what percent of the total defects determined by TV inspection during the past 5 years were the following:			
Are main line and lateral repairs checked by internal TV inspection after the repair(s) have been made?		X	

Comments:

VII. B. SSES: Survey and Rehabilitation (general)

Question	Response	Documentation Available	
		Yes	No
Have SSES's been performed in the past? If so, is documentation available?		X	
Has any sewer rehabilitation work been done in the past 15 years? If so, please describe?		X	
Does the owner or operator have standard procedures for performing SSES work?			X
Do the SSES reports include recommendations for rehabilitation, replacement, and repair?		X	
Were defects identified in the SSES repaired?		X	
Does the owner or operator have a multi-year Capital Improvements Program that includes rehabilitation, replacement, and repair?		X	
How are priorities established for rehabilitation, replacement, and repair?		X	
Has the owner or operator established schedules for performing recommended rehabilitation, both short term and long term?		X	
Has funding been approved for the recommended rehabilitation?		X	
Is post rehabilitation flow monitoring used to assess the success of the rehabilitation?		X	

Comments:

VII. C. SSES: Sewer Cleaning Related to I/I Reduction

Question	Response	Documentation Available	
		Yes	No
Are sewers cleaned prior to flow monitoring?			X
Are sewers cleaned prior to internal T.V. inspection?			X
When cleaning, is debris removed from the system?			X

Comments:

VII. D. SSES: Flow Monitoring

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have a flow monitoring program? If so, please describe.		X	
Does the owner or operator have a comprehensive capacity assessment and planning program?			X
Are flows measured prior to allowing new connections?		X	
Number of permanent meters? Number of temporary meters?		X	
What type(s) of meters are used?		X	
Number of rain gauges?		X	
How frequently are flow meters checked?			X
Do the flow meter checks include: <input type="checkbox"/> independent water level, <input type="checkbox"/> checking the desiccant, <input type="checkbox"/> velocity reading, <input type="checkbox"/> cleaning away debris, <input type="checkbox"/> downloading data, <input type="checkbox"/> battery condition?			X
Are records maintained for each inspection?		X	
Do the flow monitoring records include: <input type="checkbox"/> descriptive location of flow meter, <input type="checkbox"/> type of flow meter, <input type="checkbox"/> frequency of flow meter inspection, <input type="checkbox"/> frequency of flow meter calibration?		X	
Are flow data used for billing, capacity analysis, and/or I/I investigations?		X	
What is the ratio of peak wet weather flow to average dry weather flow at the wastewater treatment plant?		X	
Does the owner or operator have any wet weather capacity problems?		X	
Are low points or flood-plain areas monitored during rain events?		X	
Does the owner or operator have any dry weather capacity problems?			X

VII. E. SSES: Smoke Testing and Dyed Water Flooding

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have a smoke testing program to identify sources of inflow and infiltration into the system including private service laterals and illegal connections? If so please describe.			X
Are there written procedures for the frequency and schedule of smoke testing?			X
Is there a documented procedure for isolating line segments?			X
Is there a documented procedure for notifying local residents that smoke testing will be conducted in the area?		X	
What is the guideline for the maximum amount of line to be tested at one time?			X
Are there guidelines for the weather conditions under which smoke testing should be conducted?			X
Do the written records contain location, address, and description of the smoking element that produced a positive result?		X	
What follow-up occurs as a result of positive results for smoke or dye testing?			X
Is there a goal for the percent of the system smoke tested each year?			X
What percent of the system has been smoke tested over the past year?			X
Does the owner or operator have a dyed water flooding program If so please describe.			X
Is there a goal for the percent of the system dye tested each year?			X
What percent of the system has been dye tested over the past year?			X
Does the owner or operator share smoke and dye testing equipment with another owner or operator?			X

Comments:

VII. F. SSES: Manhole Inspection

Question	Response	Documentation Available	
		Yes	No
Does the owner or operator have a routine manhole inspection and assessment program?			X
What is the purpose of the inspection program?			X
Does the owner or operator have a goal for the number of manholes inspected annually?			X
How many manholes were inspected during the past year?		X	
Do the records for manhole/pipe inspection include the following: <input type="checkbox"/> conditions of the frame and cover; <input type="checkbox"/> evidence of surcharge; offsets or misalignments; <input type="checkbox"/> atmospheric hazards measurements; <input type="checkbox"/> details on the root cause of cracks or breaks in the manhole or pipe including blockages; <input type="checkbox"/> recording conditions of corbel, walls, bench, trough, and pipe seals; <input type="checkbox"/> presence of corrosion, if repair is necessary; <input type="checkbox"/> manhole identifying number/location; wastewater flow characteristics; <input type="checkbox"/> accumulations of grease, debris, or grit; <input type="checkbox"/> presence of infiltration, location, and estimated quantity; <input type="checkbox"/> inflow from manhole covers?		X	
Are manholes susceptible to inflow identified and inspected on a regular frequency?		X	
Is there a data management system for tracking manhole inspection activities?			X
What triggers whether a manhole needs rehabilitation?			X
Does the owner or operator have a multi-year Capital Improvements Program that includes rehabilitation, replacement, and repair of manholes?		X	
How are priorities established for rehabilitation, replacement, and repair of manholes?			X
Has the owner or operator established schedules for performing rehabilitation, both short term and long term of manholes?			X

Question	Response	Documentation Available	
		Yes	No
Has funding been approved for the rehabilitation of manholes?			X
Does the owner or operator have a grouting program?			X

Comments:

VIII. A. Rehabilitation: Manhole Repairs

Question	Response	Documentation Available	
		Yes	No
What rehabilitation techniques are used for manhole repairs?			X
How are priorities determined for manhole repairs?			X
What type of documentation is kept?		X	
Does the owner or operator use manhole inserts?			X
Are they used system wide or only on low lying manholes?			X

Comments:

VIII. B. Rehabilitation: Mainline Sewers

Question	Response	Documentation Available	
		Yes	No
What type of main line repairs has the owner or operator used in the past?		X	
Does the owner or operator currently use any of above techniques for main line repairs? What other techniques is the owner or operator presently using?		X	
How are priorities established for main line repairs?			
What type of follow-up is performed after the repair (e.g., CCTV)?		X	

Comments: